S. HRG. 103-97

REAUTHORIZATION OF THE SAFE DRINKING WATER ACT

Y 4.P 96/10:S. HRG. 103-97

Reauthorization of the Safe Drinkin...

HEARING

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

ONE HUNDRED THIRD CONGRESS

FIRST SESSION

MAY 3, 1993—PROVIDENCE, RHODE ISLAND

Printed for the use of the Committee on Environment and Public Works

AUG 25 1993

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REAUTHORIZATION OF THE SAFE DRINKING WATER ACT

MONDAY, MAY 3, 1993

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Providence, Rhode Island.

The committee met, pursuant to notice, at 2:00 p.m. in the Auditorium, Rhode Island Department of Health, 3 Capitol Hill, Providence, Rhode Island, Hon. John Chafee [acting chairman of the committee] presiding.

Present: Senator Chafee.

STATEMENT OF DR. BARBARA DE BUONO, M.D., DIRECTOR, RHODE ISLAND DEPARTMENT OF HEALTH

Dr. DEBUONO. OK. If everyone can take their seats, that would be great. We can get started.

Well, good afternoon and welcome to this newly renovated auditorium at the Rhode Island Department of Health. I don't know, Senator, if you had been here a few years ago, but we had a raised platform and stage and we, in order to comply with the Americans with Disabilities Act, have had this auditorium completely refurbished and it is very accessible to the handicapped, as you may have noticed.

Well, I'm delighted to welcome all of you. I am pleased and thankful that you would take the time to hold a hearing on the Safe Drinking Water Act here in Rhode Island. I feel very strongly that safe drinking water is one of the primary building blocks of a strong public health infrastructure. It is fundamental to both food safety and sanitary living conditions. Until events like the boiled water advisories of last summer we tended to take for granted that safe drinking water will always be there flowing freely from the tap, but it cannot be taken for granted. Point and non-point solutions continue to contaminate the waters and failing water system in frastructive eat away at the integrity of our supplies after treatment. A strong drinking water program including full implementation of the Safe Drinking Water Act is a top priority at the Department of Health but the economic conditions in Rhode Island are unfortunately not very good. The Department of Health's budget has taken a significant cut, close to 25 percent over the last 4 fiscal years, and many of the programs in the Department have taken significant cuts even this year. Because of my strong conviction of the necessity of a strong drinking water program, our drinking water quality program has been held harmless in the fiscal year

1994 budget proposal that I submitted to Governor Sundlun and Governor Sundlun has submitted to the Legislature. It is my top priority for increased funding if at all possible.

We had to submit enhancement papers to the Governor and to the General Assembly. These were papers expressing what our top priorities were should any funding be available and I'll let you all know that drinking water quality was my absolute number one priority. Unfortunately, State funds are not going to be available to us this year, but this certainly is and will remain very high on my list.

As you know the work load under the Safe Drinking Water Act has tripled over the last five years. Through a lot of hard work and dedication the program has been managed to continue. But we need help. The strain of new rule implementation without additional funding is forcing us to divert funds from areas such as sanitary surveys and technical assistance. Something has to change. Whether it is the funding level, schedule, or priorities is up to Congress to decide.

I look forward to our discussions and very much appreciate your being here to receive our input.

I'd like to introduce Senator Chafee who has been very, very committed to the issues of safe water. In addition this gentleman has been a leader in areas of health care reform, in all areas related to health. He is really a man who I think is very much on the side of public health today. And without further ado, I'd like to introduce Senator Chafee who will also give a few opening remarks.

OPENING STATEMENT OF HON. JOHN H. CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

Senator CHAFEE. Thank you very much, Dr. DeBuono. First I want to thank you very much for permitting us to use this auditorium and your building and thank you for taking the trouble to be here. I know that you've got to be elsewhere but your folks are going to be here and we'll count on them for input from the Department of Health. I just want to say that I think the State of Rhode Island is very, very fortunate to have somebody like Dr. DeBuono. Actually we've had a series of outstanding Directors of the Department of Health extending over many years and that high tradition has certainly been maintained by Dr. DeBuono, so we are grateful to you.

I appreciate the Lieutenant Governor taking the trouble to be here and we look forward to his remarks. What I thought I might do is just make a few comments.

Obviously it is a given that good drinking water is essential to public health. And the contaminants that sometimes occur in drinking water can have serious and widespread effects on health as we certainly know here in the State of Rhode Island. Bacteria and other pathogens in the water like the one that caused 400,000 illnesses recently in Milwaukee, not only can it be disabling for some but can be life threatening for some who have preexisting problems.

There are other difficulties that come from lead in distribution lines and there is a direct relationship between lead and retarda-

tion and development of our children and also linkage with high blood pressure for adults. It is said that these estimates always can be challenged, but the negative health effects from lead in drinking water are estimated to cost our country over one-and-a-half billion dollars a year. If we can do something on the preventive side, it will be a darn good investment. There is no question but that drinking water contaminants have an effect on or can lead to cancer in some instances.

There was a recent article in the New England Journal of Medicine, which is the most prestigious magazine dealing with health that said as many as 17,000 fatal cancers can be caused each year by the chlorine by-products left in drinking water after it is purified.

The original Safe Drinking Water Act was enacted in 1974 and what that did was to set up a three-level arrangement for cooperation between the three levels of government starting with the Federal Government, with EPA setting the standards for contaminants. Then you have the locals who typically supply the drinking water to a community, whether it is in Pawtucket or Warwick or wherever it might be. What they try to do is to insure that the water they deliver meets the standards so you have the Federal and you have the local but then you have the State health departments which oversee the activities of the drinking water suppliers concerning analyzing the samples, enforcing the rules so you get all three levels of government involved.

In 1986, which was the first time that we made significant revisions in the Safe Drinking Water Act, Congress mandated an extensive group of amendments to the law which required the EPA to issue standards for a large number of contaminants within a very short time. We did that and I can remember when that took place. There was a lot of pressure from the States and many likewise in the environmental community to do something because EPA had been slow to issue the standards that were required from the earlier act. And just now these amendments that we passed in 1986 are becoming effective and they've caused many to question the workability of our law.

What are some of the complaints I've heard under the Safe Drinking Water Act? Well, I think you can probably put them into three categories. First, the large cost of these new requirements, especially to small cities and towns. I'll never forget Senator Domenici from New Mexico, who obviously has a lot of small towns and villages in his State, bitterly complaining that the Safe Drinking Water Act had levied a whole series of monitoring requirements on communities that had never previously had any problem with contamination. In small communities where there isn't many houses to spread these costs across you've got a real problem. So that is the first thing, the cost.

The second problem was the lack of resources on the State level. Now you usually equate resources with money but this isn't always true. It's the expertise that is required because some of these tests are rather complicated. Congress and EPA have included some flexibility in the law and regulations to reduce these costs, and for example, we provided that States can waive the monitoring requirements or grant exemptions from certain parts of the law, but

frankly, the States just don't have the people necessary to process these waiver requirements, these waiver applications and so it hasn't been what we provided in the law as a what we thought was a bonus or a benefit for the States hasn't always proven true.

We recognize that there is some $60 million that available each year for grants from EPA to the States but the State requirements to get this expertise has been estimated as high as $200 million across all the 50 States. So that is the second problem, the lack of expertise or personnel.

The third problem is one of priorities and who is going to decide the priorities. Many argue that the contaminants that are listed for regulation under the Safe Drinking Water Act may not pose such a serious problem as everybody is talking about. Let me give you an illustration. The Safe Drinking Water Act requires the EPA to set a standard for radon. Radon, as you know, is a gas that may be dissolved in drinking water and released when the water comes into a home. Radon is radioactive and exposure to it can cause lung cancer, however, the amount of radon that comes from drinking water is estimated only to be two to five percent of the radon in an average home. Where does most of your radon comes from? It comes from the soil, leaks in through the foundation if the house is located in one of those areas where there is radon and so many say quite logically, I might say, well, why do you spend money on trying to solve two to five percent of the problem which is rather expensive when you don't do anything about 95 percent of the problem which frankly with a few monitoring devices and not major changes could really be taken care of, so let's not spend time and money on two percent or five percent of the problem when 95 percent of the problem is left unattended and can be probably handled in a much simpler way, so that is what we are talking about when are talking about priorities.

So what we are here for today is to look at the future of the Safe Drinking Water Act. It is my own belief that we ought to be tackling it this year. We've got a pretty full menu, I might say, in the environment committee this year. We have the Clean Water Act, we have endangered species and to try to get something like the Safe Drinking Water Act in there may present some challenge. I'm glad Mr. Elder from the EPA is here, he can let us know what EPA is thinking on this issue. So there we are and we appreciate all our witnesses and I'm delighted to welcome our distinguished Lieutenant Governor, Governor Weygand, if you would like to come up here, we'd be glad to hear what you have to say.

STATEMENT OF HON. ROBERT WEYGAND, LIEUTENANT GOVERNER, STATE OF RHODE ISLAND

Lieutenant Governor Weygand: First of all, thank you very much, Senator Chafee, for having this hearing here. I think that all of us that are here in this "environmental community" appreciate your efforts. As Dr. DeBuono said, I don't think that there is anybody that has done more in terms of the environment. You've always been a great statesman when it comes down to environmental concerns for this State and we all greatly appreciate your work.

I would like to talk about not only this issue but some other complementary issues that I think affect drinking water. First let me premise my remarks by actually some of the facts that you've already began Senator. As most of us know, prior to 1990 there were only approximately 25 contaminants that were required for testing. By 1995 is my understanding is that over 150 contaminants will be tested and by 2000 nearly 200 contaminants will be tested. Approximately 90 percent of the violations that we see with regard to the Safe Drinking Water Act occur in the small systems, generally those systems that have less than 3,000 people that are serviced by that system. The small systems may no longer be viable, as we all understand, because it becomes too costly for them to repair or improve their systems to meet the standards. So it poses not only a question about what we are testing for and the quality of the those that drinking water but a couple of other things that I think have been pointed out in a forum that I recently had on drinking water and water supplies in the State of Rhode Island which I believe you have worked strongly on in the past before as well and that is when we talk about the quality of water, that is one thing. What we saw in the State of Rhode Island last year, 4 different failures of systems, not because of the quality of the water but the quality of the system. So not only must we talk about the quality of the drinking water, we must also talk about the quality of the delivery system, the infrastructures because they are really coupled no matter what we did at the reservoir or at the tap what is in between that infrastructure has a great effect financially as well as qualitatively on that drinking water. So even though it is not exactly pertinent to the Federal regulation, it is extremely pertinent to the quality of water that we have here in the State of Rhode Island.

The third thing is that as systems fall off line, the smaller systems in the State of Rhode Island begin to fail or cannot conform to the standards that are required by the Act. We will see those consumers have to tap into existing larger systems. Those existing larger systems generally have two things wrong with them. One is the quality have their infrastructure. The second is the limited resource of their water. As you know, Senator, in the State of Rhode Island the Providence Water Supply Board supplies approximately 60 percent of all the water to the people of Rhode Island. But it is almost at its limit. It cannot service any more people simply because of the limited supply of the Scituate Reservoir, so as these smaller systems fall off line, they are going to have to tap into the larger systems and when the larger systems either are of poor quality of infrastructure or lack the quantity of water at their supplies they will not be able to service these new consumers to their systems posing two very, very difficult problems although not exactly pertinent to this Act certainly are impacted by this Act.

Recently we had a forum here in Rhode Island that brought together all of the water suppliers and many of the people in the forefront on water supply management and resource protection in the State of Rhode Island. They pointed out so many problems wrong with the systems that happened here in the Northeast that it becomes where did you begin the question becomes where do you begin? First do you talk about the issues that you have mentioned

in this Act, that is, the number of contaminants? Do you talk about the delivery structure or do you talk about increased water supply? We suggest that we must talk about all three in a comprehensive fashion. We can't begin to talk about the quality water without talking about how did we repair our infrastructure and how did we add additional supplies of water or better yet we all believe a better way is conservation of our existing supplies of water.

We have suggested with the Rhode Island General Assembly two Acts to help did that which I will give to you, Senator, for purposes of review. One includes necessary and mandated repairs of infrastructure; the other is a method of funding of infrastructure and resource protection. I would suggest to you that we all believe that we have to have better quality of water. The question that Senator Chafee has posed to us which is very apropos is did we go so far to such an extreme in requiring small testing or large testing of small quantities or did we address the bigger problems, did we address issues like radon, infrastructure and water supply and I would suggest before the re-authorization of the Safe Drinking Water Act that we have to address those issues and not simply the regulatory part of it because if you did only the regulatory part of it, you will put yourself and the State in a Catch 22 where you have taken systems off line but you haven't given them the resources to improve their infrastructure or expand their quality of water and that would be the worst for all the States, not only Rhode Island but particularly those States in the Northeast that suffer from antiquated infrastructure and limited supplies of water.

I would hope that would go into the deliberation of the re-authorization because I know that you feel very strongly about the quality of water as all of us did here but without addressing all of them in a comprehensive fashion it becomes very difficult for any State, let alone Rhode Island, to implement the requirements of the Safe Drinking Water Act.

Senator CHAFEE. Let's see if I understand what you are saying. It is your point that despite all these requirements for further testing and each year there are added substances for testing, you are saying let's get the distribution system, the so-called infrastructure straightened out before we come down on some community for not meeting the standards?

Lieutenant Governor WEYGAND. Yes. Let me explain a little bit further. As you said address the major issues whether they happen to be radon or other issues where you can focus and make a major accomplishment all at once but in doing that also you must focus on the infrastructure. In the City of Providence, for instance, many of the pipes are 60, 70 years old. Some of them are even made out of wood, so even if we have the best quality water going into these systems, if they are leaking, failing or contaminated, it makes it very have difficult no matter what the quality of water is to deliver a good quality water to the consumers in Providence.

The other thing is also unless we have good conservation and/or expansion of existing water supplies we have a limited resource. We must take those into account first. Without all of those being done, I suggest to you that you can't begin to expand further requirements of regulation until you have a comprehensive plan to

do all three things. Quality of water, quality of infrastructure and quantity of water.

Senator CHAFEE. In other words, in the Pawtucket situation the water that went into the pipes was fine?

Lieutenant Governor WEYGAND. And the piping system, the infrastructure, was decayed and therefore caused the contamination. I believe the same thing was true with the failure that you mentioned of about 500,000 people. It was a failure of the infrastructure, not the quality of the water. North Kingstown, URI, Quonset Point all had failures in either the quality or the infrastructure itself.

Senator CHAFEE. OK. Good. Thank you very much for taking your time.

Lieutenant Governor WEYGAND. I'll leave these two Acts with you.

Senator CHAFEE. I appreciate your coming. We know you have a full schedule but I'm very grateful for you taking the time.

Mr. Elder, Director, Office of Drinking Water and Groundwater, USEPA, followed by June Swallow, Director of the Division of Drinking Water Quality, Rhode Island Department of Health and Dr. Vanderslice, Chief, Office of Environmental Health Risk Assessment, Rhode Island Department of Health, so we've got two levels of government right here and I'm not saying yours is the higher level, but Mr. Elder, I am just saying yours is a level. Why don't you go first? We'll go alphabetically.

STATEMENT OF JAMES R. ELDER, DIRECTOR, OFFICE OF DRINKING WATER AND GROUND WATER, U.S. ENVIRONMENTAL PROTECTION AGENCY

Mr. ELDER. Thank you, Senator Chafee. My official statement has been submitted for the record. I am the Director of the Drinking Water and Groundwater at EPA in Washington, DC. I appreciate the opportunity to discuss the implementation of the Safe Drinking Water Act and other broad issues relating to re-authorization. The recent contamination problem in Milwaukee, like last summer's events in Pawtucket, North Kingstown serve as a reminder to all Americans that safe drinking water cannot be taken for granted. Despite considerable progress by the States and by EPA in implementing the 1986 amendments to the Act, safe drinking water remains an important public health concern. In fact, EPA's Science Advisory Board a couple years ago rated drinking water as one of the top priority environmental health risks addressed by all of EPA's programs.

Before discussing specific Drinking Water Act implementation concerns I would like to put today's debate on re-authorization in prospective. As you've stated earlier, during the 1986 debate several members of Congress, including members of the Senate expressed dismay over EPA's lack of regulatory controls over a growing list of contaminants believed to be in the environment. Chemical scares involving EDB and other chemicals had spread wide concern over the safety of drinking water. As a result, Congress mandated that EPA begin developing regulations for 83 contaminants which were specifically referenced in the Act. Congress also re-

quired EPA to promulgate regulations for an additional 25 contaminants every three years. As a result of Congress' mandate, EPA today regulates 84 contaminants and the agency has rules under development to regulate 112 contaminants by 1995. While Congress' mandate has successfully brought about successful standards and has heightened public awareness of the need to protect drinking water, this approach has yielded some unfortunate results.

First, some of the contaminants regulated under this mandate are believed to pose little risk to public health, at least on a national scale. Second, the rigid process outlined in the amendments have forced EPA to dedicate a considerable portion of its drinking water budget to meeting court ordered deadlines, obviously at the expense of other competing priorities. It will become increasingly difficult for EPA to identify the real risks, conduct the necessary research and develop meaningful regulations while on the Safe Drinking Water Act regulatory treadmill. Of course, our State counterparts as well as the entire drinking water community are also feeling the effects of the 1986 amendments. This short history illuminates today's debate. On one hand public concern over the safety of drinking water is still alive; it is a valid concern and the Federal Government needs to continue to listen and address these concerns. On the other hand, there is a perception in some corners that the 1986 amendments have gone too far, that some regulations are not worth their costs.

Despite the need to reform some elements of the Act, I know the Clinton Administration is absolutely committed to strengthening drinking water protection efforts at all levels of government. The Administration recently reaffirmed its commitment by proposing a new drinking water State revolving fund. The President's program calls for $599 million in 1994 and $1 billion for each of 1995 through 1997 to provide capitalization grants to States so they can in turn provide loans to drinking water systems in order to comply with drinking water standards. We expect that this will include rehabilitation of drinking water systems and distribution systems as eligible costs.

Given the President's commitment on this issue, I would like to add that I don't believe any meaningful debate over public health can be or should be conducted in terms of strengthening or weakening the Safe Drinking Water Act regulatory requirements. Arguments to weaken or strengthen the Safe Drinking Water Act grossly over-simplify the real issues. I see re-authorization as an opportunity to direct the program toward the greatest possible public health protection we can afford. I see the opportunity to address an important public health concern in the most sensible, practical and efficient way.

As States like Rhode Island strive to increase their funding of the program, which I believe is essential, I cannot emphasize how important it is that we make the best use of every precious dollar committed to drinking water at all levels of government. Safe drinking water is simply too important, too close to our short and long-term health and welfare to do anything less.

The debate is not over weakening or strengthening the Safe Drinking Water Act. It is over how to make the program better

and how to get the most for our money. Last summer's events in North Kingstown and Pawtucket are visible examples that the potential for drinking water contamination is real. Also we need to know more about other risks to the public. The public deserves assurance that lesser known or lesser publicized contamination isn't affecting their livelihood and the health of their families. According to testimony provided by the Center for Disease Control, Dr. Dennis Uranic at a House of Representatives hearing on April the 19th, testified that cryptosporidium—which was the microscopic culprit in Milwaukee's water—is one of several infectious diseases that have challenged public health and medical care systems in the United States and Canada and there are other potential health problems. In addition to these there are hundreds of substances used and transported in modern society that are public health threats. We need a regulatory program that has the flexibility and the necessary budget to identify potential problems and direct our energies toward the most serious concerns.

Senator Chafee, last fall you introduced an amendment now known as the Chafee/Lautenberg amendment requiring EPA to provide recommendations to Congress for re-authorization of the Safe Drinking Water Act. We appreciate the opportunity to facilitate an informed debate in Congress over the future of the drinking water program. We plan to provide recommendations addressing a range of issues from State primacy to the overall efficiency and effectiveness of the drinking water program. These issues include small system compliance, streamlining enforcement and finding alternative approaches for selecting contaminants as well as setting standards. In all of EPA's recommendations we intend to build on the basic premise of the Act that safe drinking water is a national concern and a right of all Americans. I look forward to working closely with the Senate Environment and Public Works Committee on re-authorization. Now I'd like to thank you for the opportunity to address you on this vital topic. I'd be glad to answer any questions after the conclusion of the panel.

Senator CHAFEE. Thank you very much, Mr. Elder, and I thought that what I would do is complete the panel and then ask questions. Miss Swallow and I went out today to Scituate to visit in the Providence Water Supply Board and got an idea of what they are doing out there so we'd be glad to hear what you have to say. Thank you for coming.

STATEMENT OF JUNE SWALLOW, CHIEF, DIVISION OF DRINKING WATER QUALITY, RHODE ISLAND DEPARTMENT OF HEALTH

Ms. SWALLOW. I'm Chief of the Division of Drinking Water Quality here at the Department of Health. My division regulates public water systems and bottled water and we also run a surveillance program of private wells near areas of known groundwater contamination.

The public water program reviews and approves all new sources of supply and design plans for treatment. We implement the Safe Drinking Water Act and do most of the necessary sampling ourselves. We also maintain a comprehensive sanitary survey program. There are 14 people in the program which is approximately

eight less than what are needed. We are developing a permit-to-operate fee system to partially fill the funding gap. So far we have adopted all the rules and have fully implemented them on time. Unless the program gets additional resources, however, this is most likely the last year I'll be able to say that. To achieve this so far we've had to cut back on our sanitary surveys in community water systems, surveillance of our treatment facilities, inspections and technical assistance.

The program regulates roughly 500 Rhode Island public water supplies. 25 of these are large or medium-sized community water systems. All of the rest are small water systems serving less than——

Senator CHAFEE. How many did you say? Five hundred?

Ms. SWALLOW. Nearly 500. It was 482 at last count.

Senator CHAFEE. In Rhode Island?

Ms. SWALLOW. Yes.

Senator CHAFEE. You mean there are 482 separate supplying systems?

Ms. SWALLOW. Yes, there are.

Senator CHAFEE. Well, you learn something every day. OK.

Ms. SWALLOW. All but the 25 which are medium or large are small systems serving less than 3,300 people.

In general the large water systems are keeping pace with the regulatory changes. Almost all are having difficulty complying with one aspect or another of the new rules, either the surface water treatment rule or lead and copper and all are concerned with the potential interference with the future rules on disinfection by-products and the enhanced surface water treatment rule, but they are doing what is necessary to comply. Reading that water rates at one public water system or another are doubling is now commonplace. The medium sized systems as a group are falling behind. For example, under the lead and copper rule first round of monitoring they experienced a 50 percent non-compliance rate. That was either through a monitoring or reporting violation or exceedence of the action level. They are just now realizing that keeping track of various regulatory requirements really is a full-time job.

The small systems, and as I said they are nearly all public water systems, are simply overwhelmed. They do not have the financial resources to comply and further they do not have the technical resources to even know what it is that they are supposed to do. I held training sessions on lead and copper and SOC Phase Two rules, and frankly, they left the room glassy-eyed. Small water systems are drilling additional wells to fall below the definition of a public water system or if they can, they are evicting whatever business it is which makes them a public water system. I know of a day care center that is being evicted by their landlord because he doesn't want to be a public water system any more and they make him a non-transient supply. These changes are not in the best interest of public health.

There are some who feel that we've conquered the traditional concerns in drinking water such as bacteria and that it is time to move on to more exotic contaminants. Although there are several important contaminants in drinking water that deserve regulation,

and lead and radon are among those, we cannot forget the basic public health functions: inspections, sanitary surveys, treatment surveillance and technical assistance. Contamination of drinking water with coliform bacteria is still by far our most frequent and serious violation. Before the new total coliform rule we averaged 30 violations per year. Under the new total coliform rule we average 55 violations per year. But 52 of these 55 occurred in both years in the small public water systems. The reasons are untrained operators such as landlords, school janitors, restaurant owners, and failing infrastructure. The next most frequent kind of violation is technical monitoring and reporting. Last are violations of the other quality standards. These happen infrequently and they have been the nitrates, volatile organic compounds and radionuclides.

The new rules are forcing us to redirect manpower from the basic health protection functions into rule implementation and enforcement of technical, not necessarily public health related, violations. The new rules are also forcing treatment equipment such as disinfection and corrosion control into very small water systems. Neither of these trends are necessarily in the best interest of the public health.

We need a change. We need increased resources, we need a slower implementation schedule, we need greater flexibility when dealing with small systems, we need to revisit our priorities from the broader perspective of impact on public health as a whole. We need a source of funding for small system improvement and consolidation, and the States need to be partners in the regulation development process. Otherwise the regulations will continue to be complex and difficult to implement.

The answer to the program's imbalance between its broad statutory mandates and its severe resource constraints is not to retreat from the Safe Drinking Water Act's mission. Instead, the solution is to address the problem directly by focusing our efforts on measures that achieve the maximum public health benefit within the resources available to State and Federal programs to responsibly implement and enforce the program. At the same time I believe that in order to meet the resource demands of even the current statute Federal funding must increase substantially as a percentage of the total funding for both State and Federal sources.

Specific recommendations I have with respect to the re-authorization of Safe Drinking Water Act are first in the standards setting process. The drinking water program must focus on contaminants whose public health risks are sufficient to warrant regulation and the current criteria for establishing drinking water standards should be expanded to include specific criteria for public health protection, for technical capability and affordability. The statute should be amended to eliminate the requirement for 25 new contaminants every three years. As I said, there needs to be a stronger partnership between EPA and the States and primacy in States needs to be promoted because each——

Senator CHAFEE. I'm not sure I know what primacy means. Mr. Elder used the term primacy.

Mr. ELDER. It is short for primary enforcement responsibility which is synonymous with EPA delegating the administration on a State-by-State basis to carry out the Safe Drinking Water Act.

Senator CHAFEE. To carry out the enforcement?

Mr. ELDER. The implementation as well as the enforcement.

Senator CHAFEE. One of the things that was suggested today when we were out at the Providence Water Supply Board was that different systems have different requirements and that to require all systems to deal with 84 contaminants, just doesn't make sense. In some places if it is ground water, that's one kid of problem, if it is surface water that's another problem, they ought to be able to concentrate on those problems that are foremost with them rather than a series of others. Does that make sense?

Ms. SWALLOW. Well, water systems are concerned about a few things. The first are the potential interactions of the various rules and is lead and copper going to give them a problem with the surface water treatment rule and is that going to get them in trouble with the disinfection by-products rules, and yes, some water systems have more trouble with lead than they will with the surface water treatment rule and feel that they ought to be able to concentrate on lead first or some States have more trouble with lead than they did with some other contaminant, maybe radon, not here, but maybe radon. So, and especially when we get into the small system arena, a lot of small systems we might think are not terribly vulnerable to some of the synthetic organic compounds but did need to put a lot of emphasis on simple tightening up of their systems from a sanitary prospective. So yes, it does make some sense.

Senator CHAFEE. When you are through we'll go to Mr. Vanderslice. I'm not trying to cut you off.

Ms. SWALLOW. That is all right. I'm about done anyway. States are in the best position to implement the Safe Drinking Water Act because we know our State specific circumstances. We know the particular strengths and weaknesses of each water supply and we think that the Act should be amended to—I think actually be amended to stipulate that primacy should not be withdrawn from a State if such withdrawal would cause a reduction of public health protection. Adequate Federal funding needs to be assured and the Act needs to address the small community and small water systems in general. The large and complex requirements of the Safe Drinking Water Act regulations are beyond the capacity of the small communities to meet. They do need to be afforded the same public health protection as larger communities and it is a difficult question to wrestle with but we would hope that the Act would promote greater system viability and discourage small system proliferation, provide limited subsidies for small system monitoring, establish best available treatment technology appropriate for small systems and establish a small system compliance regulatory regime that is equally protective but allows for reduced monitoring of contaminants that do not threaten the system. Thank you for this opportunity to comment.

Senator CHAFEE. OK. Thank you. I have a couple of questions for you also but why don't we proceed with Mr. Vanderslice?

STATEMENT OF ROBERT VANDERSLICE, CHIEF, OFFICE OF ENVIRONMENTAL HEALTH RISK ASSESSMENT, RHODE ISLAND DEPARTMENT OF HEALTH

Mr. VANDERSLICE. Thank you for this opportunity. I'm Chief of the Office of Environmental Health Risk Assessment. The testimony needs to address public concerns not only with drinking water but also with air pollutants, soil contamination, electromagnetic fields and a host of other environmental problems. I'm here today to talk about what are the health effects of drinking water but it sounds like you are already familiar were most of those and they've been talked about so perhaps what I can did is just offer you another prospective and that's the prospective of someone in an office that has to deal with problems on several fronts.

What are the major health problems, environmental health problems in Rhode Island? Another way to ask this question is how does bad environmental quality affect public health, how does it make people sick or alternatively of the thousands of chemicals out there that we use and dispose of which ones are most important, what are the real big hazards and I would contend that we are pretty sure about lead. We know in this State that childhood lead poisoning is a major issue. Some communities, half the children in the community, half the young children will be poisoned by Rhode Island State definition. About 15 to 20 percent of the children in that community may have significant lead poisoning warranting medical attention and follow-up. There is a general consensus that lead is a problem. Lung cancer is a major problem among nonsmokers. Environmental agents are often found to be ideological for lung cancer and in addition radon is known to interact synergistically for smokers. So even environmental contaminants can be a big problem with lung cancer. Between secondhand smoke and radon combined in this State between 30 and 70 fatal lung cancers are believed to occur in this State alone. It is not a trivial problem.

Senator CHAFEE. Per year?

Mr. VANDERSLICE. Per year. And last although there are other problems that are very prevalent but not quite as serious such as sunlight-induced skin cancer or gastrointestinal disease from food and water-borne contaminants. We've talked about some of those today and the reason we are concerned is because they are quite common and also that some types of skin cancer are fatal and some types of water-borne illnesses at least for the very old and very young are very, very serious problems so this gives us my prospective from all sides and clearly sunlight and food-borne illnesses have nothing to do with drinking water but lead, radon, bacteria these are all water problems.

Senator CHAFEE. But is the a water problem more than it is an air pollution problem or a soil problem?

Mr. VANDERSLICE. No. But I think that when you look at the lead and cooper rule across the Nation water suppliers have been complaining bitterly about this rule and State officials have at least been mumbling under their breathe about it and but the screams and cries are diminishing because I think it is generally recognized that lead in water is a problem. We have a problem here. But the

problem is that the lead and cooper rule addresses the lead in drinking water problems.

From my prospective the problem is childhood lead poisoning and it does a very poor job of addressing that problem so for example in the majority of our lead poisoned children's homes we go in and inspect. The hazards are due to contaminated soil and paint. In some cases water is a problem. And what does the lead and cooper rule say about those children with an immediate medical need? Because lead is in their water it does nothing. We've got an uncoordinated approach that is not government at its best, so clearly we are trying to work out something.

We are thinking about grants and ways to deal with these individual cases and problems, but clearly, water can be a problem. Water suppliers are complying because they recognize that this is a health problem. Whereas radon is a health problem, but again, our fears about radon not only does it, you know, when you look at the figures, the two to five percent decrease in radon levels may look cost effective. You are going to avoid some lung cancers but the reason State officials don't, you know, climb on this band wagon is we know that it is going to mean that very small water suppliers are going to have to aerate and air brings in bacteria. Now they are going to have to disinfect. We aren't confident that these 482 systems are going to have 482 individuals are capable of installing that disinfection. We are worried that we are trading a lung cancer savings for a definite bacterial problem. And the same goes when we are talking about the bacteria problems today. Milwaukee or here in Rhode Island the Safe Drinking Water Act does an excellent job of promoting good monitoring, or finding those bacteria that are there in the system, but as several have discussed, it is not set up in that good old public health primary prevention kind of activity of good maintenance, of good practices that we prevent that bacteria there so we are half way there with that rule so I think between lead and radon and bacteria we can see that sometimes we are just going to have to rely on more creative approaches for regulating contaminants that these are all good regulations, they've all and although radon has just been discussed clearly no one says radon is the problem. But oh, let us work on our major problems first. Let us take care of the homes with maybe 30,000 pikes per liter testing their water first before we go to the other ones and the reason is because we are worried about trading one health problem for the other or we are worried about day cares leaving small systems.

I guess that alludes to your comment about let's not talk about public health with respect to strengthening or weakening the Safe Drinking Water Act. We are getting beyond some of those questions. Now we've really come a long way since" 86. I think that those amendments have really put us in a whole other situation to take a new phase and a new look at how we should deal with some of these problems.

Senator CHAFEE. Does that complete your statement?

Mr. VANDERSLICE. That is it.

Senator CHAFEE. OK. Well, let me ask Mr. Elder the following question and maybe Miss Swallow the same question. In some of the material I was given it says that the average State expenditure

on drinking water programs is less than $0.20 per person per year which isn't much. So therefore, why are States going to the Federal Government which is broke and borrowing $0.20 of every dollar it spends? Why is this a source for money when it seems that the States aren't doing much themselves? I don't know what the statistic is in Rhode Island, but I was handed this information which says that States on an average spend less $0.20 per person per year. I presume that is the area that you are addressing, Miss Swallow.

Ms. SWALLOW. Yes.

Senator CHAFEE. Mr. Elder? The present Administration is coming forward with a new program and I worry about the success of new programs but we've got a problem here and I'm just curious what your thoughts are.

Mr. ELDER. Let me start by talking about the reaction that has been going on since I came to this position two years ago last month. I had worked for the previous eight years on the wastewater part of EPA's responsibilities, thought that there was a groundswell of opposition to what was going on in the wastewater side in terms of municipal treatment requirements, industrial treatment requirements, and combined sewer overflows, but that turned out to be rather light compared to the reaction of the populous including the States and the public water systems in my present position. So what to me is behind all this is a lot of criticism about the unfunded Federal mandate Congress passed the" 86 amendments which really changed the landscape in terms of drinking water regulation. EPA is, albeit late sometimes, complying with the standard setting requirements of that Act, within limited resources we are trying to do what we can in terms of enforcement and now we are getting this outcry back from people at the local level as well as the State agency administrators saying this has gone too far, you are not providing enough resources, you are doing overkill, that type of thing. So I think that the administration's proposal for the drinking water State revolving fund is in part to respond to that outcry that we have all these requirements and systems have any wherewithal to be able to comply with them, so we are trying to copy the experience that has existed with the wastewater side where the State revolving fund concept seemed to be very successful, as well as being absent of any cases that I know of from waste, fraud or abuse and trying to replicate that on the drinking water side.

At the time that the administration is doing that they are recognizing that the deficit is quite high, they are trying to get it down, but the President felt that with all these competing priorities that doing something about drinking water infrastructure was something that had to be found room for. At the same time he's requested that agriculture's budget for the Rural Development Administration go up 50 percent over two years to finance water and wastewater systems in communities under 10,000 people both in terms of loans and direct grants, so I think both of those things will help quite a bit at the local level. They are not going to completely solve the problem but they did respond to that outcry. At the same time the second part of my answer concerns when you talked about $.20 per person per State. I hadn't heard that particu-

lar statistic but it is consistent with my awareness of the lack of financing of the State administration of drinking water programs. We've tried in the last couple years to increase the dollar amount of grants to States. I think there is a recognition that for fiscal 94 had there been any more room in the agency's budget we would have asked for more State money. We are trying to help States enact user fee requirements such as June talked about. We've been successful in some States so far, not yet in some others like Maine. But I think that both of those things are necessary to be able to put States and communities in the position to respond to all the requirements that we've been required to promulgate.

Senator CHAFEE. Well, I think your point is a good one, that the Federal Government or the Congress cheerfully levies a whole series of mandates on the States and then gives them no resources to deal with them. I mean, there is a tremendous list of contaminants that these States and the local water authorities are meant to abide by is really quite severe. What do you say to that, Miss Swallow? It seems to me a rather puny effort being made by the State. I'm not sure what Rhode Island's figure is.

Ms. SWALLOW. I did try to figure that out. I think in my division alone it is about $0.30 a person but if you include legal services and the laboratory staff then I believe it would go up to approximately $0.60 a person.

Senator CHAFEE. $0.60?. That is for the State cost of monitoring the program?

Ms. SWALLOW. Yes, for the State personnel.

Senator CHAFEE. Do you think that gives you a very strong case to go to a tattered Federal Government that is in nefarious shape and to ask for something?

Ms. SWALLOW. We are going in all directions because we truly want to implement this Act. We've gone to our own Legislature, as the Director said, this is the No. 1 priority of the Department and I am working on the fees trying to go directly to the water suppliers and I'm going in the direction of the Federal Government as well. We are going in all directions trying to get the money to do it right.

Senator CHAFEE. You both touched on this in your testimony about the complexity and costly EPA monitoring requirements. Is there any way to simplify all of that and make it less expensive as you see it from where you are?

Ms. SWALLOW. I think that if the States were more equal partners in the regulatory writing process, we would come out with more cost effective and implementable rules because the States really are the people who implement the rules; we are the hands of this program. I think that would be the best way to try and simplify and make more efficient rules.

Senator CHAFEE. As I mentioned before, Senator Domenici was bitterly complaining about what all this has done to small communities, we see it across the State of Maine, many very small water companies that might have 80 families are trying to comply with some of these regulations, particularly when life has gone along rather cheerfully many, many years, nobody seemed to have become terribly sick. I must say I didn't quite realize they was as strict as they were, all these new contaminants. You were out

there today and you heard the head of the Providence Water Supply Board complain that it is a moving target. As soon as they get and geared up for these, along comes 25 more contaminants that they've got to regulate and comply with the monitoring of. He was I thought he felt a little discouraged by the whole situation. What do you say to that?

Ms. SWALLOW. They are very concerned that they'll be spending several million dollars installing a new treatment device or tank to comply with oh, with the surface water treatment rule and to optimize lead and copper control at the same time and then the disinfection by-products rule will drop to something that they can't meet and they'll end up spending another several million dollars on that. and they might have done it differently had they known. They are very concerned about that.

Senator CHAFEE. What do you say, Mr. Elder? Here's this man trying to run a rather sizable water department that supplies 60 plus percent of our State, he tries to comply with the rules you set out this year but next year he's going to have a whole new set of them. How can he gear up for that? If he is spending X dollars to meet these contaminants and he had to buy a whole new piece of equipment, it might cost another X dollars the following year whereas if he could get the same piece of equipment to take care of both, if he knew what the requirements were, it would cost maybe only X plus X-and-a-half dollars.

Mr. ELDER. It would be very nice to have a single stationery target but the mandates of the Act, as I talked about, required us to regulate the first 83 and then to add 25 additional ones every three years. I think that does need to be changed until things settle down a bit. June talked about trying to slow down the implementation dates of some of the requirements that we did promulgate. I think that there is some common sense associated with that. On the other hand I did not believe that many of the new requirements are necessarily contradictory of one another. Just because you did something to get rid of synthetic organic chemicals in your water or inorganic chemicals in your water doesn't necessarily mean that the next thing that we come out with on disinfection by-products will require you to install something that you'd regret had you known about these new requirements. A lot of them are additive. A lot of technologies that are available to the systems are going to have complementary values, so that if you install something to get rid of Chemical X, it will also have the ability to remove Chemical Y and Z, so you are paying for it for one thing but you are also removing several other things. That can include treatment processes, including advanced filtration, it could include granular activated carbon or in some cases aeration. The requirements that people are having to install to get down their lead levels—like optimize corrosion control—I think that has a benefit if it is done properly of also extending the life of the distribution system because you retard the corrosive ability on the pipes of the water that's coming through the pipes.

But I if you'll allow me, I would like to go back and make some comment about your reference to Senator Domenici and about flexibility that I think is out there and the people aren't able to utilize. For most of the obscure chemicals that we require people to

test for are satisfied if they only did one round of testing every three years. We think that that's a fairly prudent way to make sure that something hasn't penetrated in your ground water from, you know, what may have been 50 miles away three years ago. Depending upon the type of geology, that time of travel certainly could occur. A lot of States already do the testing that is required. I believe Rhode Island does extensive testing for a lot of their systems so you have the benefit of a centralized laboratory. Other States rely on certified contract laboratories to do the testing which can become a bit difficult but it is less of a strain on State resources. Even where we've provided for monitoring waivers, a lot of States including New Mexico a year ago did not have enough State employees to process the requests for the waivers so you had a Catch 22 situation there where communities wanted to get exempted because they had no prior use of this particular pesticide, they had the right type of protected underground supply of drinking water, and yet when they sent the request to the State the State said we can't do this, you have to report the monitoring test. So that created a groundswell of opposition which lead to the Senator introducing his amendments. Since then New Mexico has decided to increase the State agency resources and they are processing requests for waivers. So I think things have calmed down a little bit in New Mexico from what they had been a year ago.

Senator CHAFEE. Well, I think I hope so, because if they haven't, I'm sure Senator Domenici will let me know.

Mr. ELDER. Me, too.

Senator CHAFEE. As I understand it, what we did in that amendment last year, we said that if they didn't find something, they could skip testing for the next three quarters.

Mr. ELDER. Yes. Your amendment provided that for small communities serving under 3,300 people that if a State wanted to, they could allow just one test instead of 4 tests per year and if the one test was negative, they wouldn't have to do any more testing for that year.

Ms. SWALLOW. You might be glad to know that 70 percent of the water systems in this State are taking advantage of that.

Senator CHAFEE. You mean they are able to skip? That is, if you test OK, you can skip the next three quarters?

Ms. SWALLOW. Yes.

Senator CHAFEE. Well, isn't that wonderful? When I was Secretary of the Navy, I'll never forget Admiral Zumwalt, who was the Chief of Naval Operations, he went to the Western Pacific and came back and he said, "You know, it is the darndest thing, some of those rules we passed here in Washington, they are carrying out there." So some of the good things we did actually did produce results. Well, that is good. Getting back and I don't want to harp on this 4 water districts or water suppliers, but if somebody had a well and rent their house, does he then become a water supplier, a water district?

Ms. SWALLOW. No. 25 or more people or 15 or more service connections for 60 or more days of the year. It does include things like restaurants with wells and even gas stations that serve coffee that have wells.

Senator CHAFEE. You mean to say that somebody would have a well and he'd sell it off to different people around and that would——

Mr. VANDERSLICE. A trailer park.

Senator CHAFEE. OK. I can get a trailer park, but I don't know 4 trailer parks in the State.

Ms. SWALLOW. The bulk of them are non-community suppliers such as rural restaurants and motels, camps, recreational facilities.

Mr. ELDER. Senator, I might add if you are staggered by that number in Rhode Island, the national number is over 200,000.

Senator CHAFEE. Well, I believe it if we've got 4. I'm just stunned by that. Is there one in Lafayette, Kenyon and——

Ms. SWALLOW. Kenyon Piece Dye is a public water system.

Senator CHAFEE. OK. Kenyon Piece Dye. Well, I would think that I'd be very, very cautious of getting that 25th. Is it anything over 25, anything over 25?

Ms. SWALLOW. Yes, 25 or more people, yes.

Senator CHAFEE. I'd be very reluctant to take that 25th fellow.

Mr. ELDER. Senator, I understand your thought, but there is an opposite problem being created that I am aware of. In certain States it has became popular to disconnect so that you get under the 25 limit which means you operate outside the purview of the Safe Drinking Water Act. Some people have decided to split up their mobile home park and drill a second well so they get under the magic number of 15 connections or 25 people served more than 60 days during the year and after that unless the State has additional requirements, then they are totally exempt from having any testing or any compliance requirements including bacterial contamination.

Mr. VANDERSLICE. Senator, can I make a comment?

Senator CHAFEE. I have a question for you then you can make your comment. I get a lot of mail about aluminum and its effect or potential effect on Alzheimer's. Is there anything to that?

Mr. VANDERSLICE. That is a very confusing issue. I think that the tragedy of Alzheimer's lends itself to people really jumping on some initial studies or some semblance of a positive result. It would be nice if we could identify aluminum as the cause of Alzheimer's and then get rid of it, but I am afraid it is not going to be that conclusive. I have not seen anything conclusive about Alzheimer's.

Senator CHAFEE. And EPA dropped it as a regulated contaminant.

Mr. ELDER. We did not have an enforcement requirement for aluminum. I believe we have a secondary standard which is a recommended standard usually applied for taste and odor considerations. The recent studies that I've looked at also indicate no connection whatsoever between aluminum and Alzheimer's disease.

Senator CHAFEE. Mr. Vanderslice, you had a comment?

Mr. VANDERSLICE. Well, there are a lot of environmental concerns and we've been talking about the poor water suppliers but I think that school principals find that they have a wealth of environmental concerns that parents have on indoor air quality and we regulate ice arenas in this State because of carbon monoxide coming out of the resurfacing machines and there is an awful lot of individuals that are asked to become environmental health experts

these days and I think that we get great compliance when we allow people to attack their biggest problems first and we invite them to participate in the process and say you tell me, is this a problem? I think it is a problem and you tell me, when did the biggest problems occur and I'll let's have you attack those first and work your way down. So I think this goes back to having State input into any sort of re-authorization is that if we are allowed to say what our big problems are and can we please attack them first, I think it just makes everybody a lot happier and better able to comply.

Senator CHAFEE. So you ask Rhode Island, what is your biggest problem? Well, it is radon. What do you do then about the requirements under the law of testing for all these contaminants?

Mr. VANDERSLICE. Well, if we do identify radon, for example, and we talked about that poor guy in a trailer park, then wouldn't it makes sense to give him 25 canisters and if radon were a problem in some of the trailers and not others, to attack those problems first? And then if indeed it were a problem associated with drinking water, radon coming out of the water into the air, then a simple bathroom ventilator in each one of those trailers is easy to install and effective at removing the gas that comes out during a shower and yet nobody had to worry about whether old Harry is really putting the chlorine in the system like he should be. So I think there is some maybe not technically very advanced solutions to problems, the problems that the people in the trenches can come up with for solving the public health problems. We don't want people to have public health problems but we can come up with solutions that even would work in that trailer park——

Senator CHAFEE. In conclusion what do you recommend to me, Miss Swallow, if you had three recommendations as we come up to Mr. Elder and the others in the Department of Environmental Protection, you want us to renew or take up again the surface drinking water act and, so we look at it, what would you suggest we do?

Ms. SWALLOW. I think we need to look at a stronger EPA State partnership, we need to assure adequate funding for both the State programs and the public water suppliers to rebuild infrastructure and that sort of thing.

Senator CHAFEE. But, you know, it is a great big step from having supplying money for adequate supervision of a program and getting into infrastructure. I mean, when you are talking infrastructure you are talking piping.

Ms. SWALLOW. Yes.

Senator CHAFEE. It is one thing for the Federal Government to help you train people so that they can do the monitoring and grant the waivers, but it is another thing to start paying for replacement of lead pipes.

Ms. SWALLOW. The larger water systems can probably handle the economic hardship but the small water systems really do need the help. In a lot of cases they have no credit rating, have no collateral and they can't even go to the banks if they wanted to get financial help and this is where the real financial need is.

Senator CHAFEE. We are going to hear from Pawtucket later on, but is the Pawtucket problem the techniques for dealing with flushing out the pipes? Does that just stir everything up and make it worse?

Ms. SWALLOW. Yes, there are techniques. I'm sure Wiley will discuss it.

Senator CHAFEE. We'll learn that later. Mr. Vanderslice, any parting words?

Mr. VANDERSLICE. I don't think that the approach of regulating additional individual water contaminants is going to be terribly productive.

Senator CHAFEE. Could you say that again, please?

Mr. VANDERSLICE. I don't think the approach of regulating additional individual drinking water contaminants is going to be productive so I would hope that flexibility and a desire to find creative solutions to these problems comes about when we reauthorize the Act.

Senator CHAFEE. Mr. Elder?

Mr. ELDER. Thank you. I'd like to make two comments on what Dr. Vanderslice said if I might and then wrap up some comments about fundamental changes. He talked about trying to get people to attack the biggest problems first. I think that is a noble goal but I think it's quite difficult to get consensus on what it is that ought to be attacked. He talked about lead as an issue in drinking water as well as an issue in paint and in the air. It has taken quite an awesome public education effort on our part to get the level of acceptance that already exists in terms of implementing the lead and cooper rule for drinking water. When you talk about something as hard to detect as radon because it is an invisible gas, they are getting people to agree that they needed to do something like installing a ventilator in a mobile home trailer is quite another matter. EPA as a matter of fact does not have the ability to regulate radon coming out of soil gas. All we have is a rather extensive public education program. If the Congress would see to it that EPA had the authority to regulate radon coming from soil gas, I think that the agency would be eager to carry it out.

Now, in terms of my concluding comments, I would say that, as I said in my opening statement, we did need to reform the Act. I think there is some modest changes that need to be made to increase the public acceptance as well as acceptance by members of Congress to what they were in 1986. I think the agency needs additional resources so that we can do better science and we can do better technical assistance to the States. The States themselves need additional resources to administer the drinking water programs at their level and also we need the State revolving fund concept or some other financial assistance program to help the systems themselves comply and a major component of that is to do something about the viability of systems. There are too many systems in the United States right now than can be afforded. We have all of these small systems. Eighty-seven percent of the community systems in this country serve less than 3,300 people. That is not the way that we are ever going to achieve long-term compliance with our requirements. Since I don't consider rolling back requirements to be something that I would advocate to enable systems to comply. A better idea and one of the key ways to do that is to merge them where that makes sense, be it physical consolidation or having joint management structures, have the same circuit rider to go around and make sure that the chlorinator is operating properly,

having satellite management in terms of accounting and billing services, all those things would bring us a lot further than we are today in terms of people's ability to comply.

Senator CHAFEE. Aren't you getting into heavy weather when you are suggesting, that not that you were, but it seemed to be implied, that the government somehow would force these consolidations?

Mr. ELDER. I think create incentives for consolidation and I think as the States and EPA continue to enforce the requirements of the Act the attractiveness of consolidation is going to increase. Also, the State revolving fund bill, one of the bills that came out of the House Energy and Commerce Committee last Tuesday provides a requirement that if consolidation would provide cost savings, that then they must pursue consolidation before they become eligible for any other type of financial assistance. So I think that type of hook will help improve the viability of drinking water systems that need to be out there.

Senator CHAFEE. I see. One last shot, Mr. Vanderslice?

Mr. VANDERSLICE. Well, I disagree. States work with individuals. We have a strong coalition right now over lead. We have general consensus it is a problem. Washington is a little far removed. EPA is a couple years behind in developing a good childhood lead poison prevention program. It is not clear that is their Legislative mandate but we have those laws and we have that consensus and we can do that real well on a local level. We can get consensus on what is the biggest problem and what we should attack first. That is why States say, hey, look at us. We are down here because we have somebody in the community saying look at me I'm sick. And sure EPA does not have the flexibility to come up with those solutions for radon right now. They've got a strict, very prescribed set of things that they must do to promulgate those regulations and very strict and prescribed way that you are allowed to treat them. Maybe you can get them a little flexibility so they can use that science and those minds and come up with better solutions to the problems than simply well, you have to aerate, you have to use best available technology.

Senator CHAFEE. OK. Well, I tend to agree with Mr. Elder that trying to get any attention whatsoever focused on radon is pretty darn tough. People can't see it or feel it, and its effects are long range, that is why Congress has never mandated that anything other than conduct some tests and provide the equipment for testing be done. You can have a housefull of radon and it is not against any public health law that I know of, is it, Mr. Elder?

Mr. ELDER. Not at the Federal level, no.

Senator CHAFEE. OK. Well, thank you all very much for coming. I appreciate it. OK, let's take the next panel, Mr. Archer from Pawtucket, Mr. Schisler from the Audubon Society, Mr. Marvel from Woonsocket and Ed Bragger.

As I understand, Mr. Marvel isn't here from Woonsocket. OK. Mr. Archer first.

STATEMENT OF WILEY ARCHER, PAWTUCKET WATER SUPPLY

Mr. ARCHER. Thank you, Senator.

Senator CHAFEE. Thank you for coming. I want to thank you all for coming.

Mr. ARCHER. First of all, I would like to say I talked with Mr. Marvel earlier this afternoon and he explained to me that he had a fire on his watershed on Saturday, a problem at his treatment plant on Sunday and he has approximately a third of his system without water, so he felt that he would really be extended——

Senator CHAFEE. I understand that he has had a bad week and I'll give him an excused absence.

Mr. ARCHER. Thank you, sir. He did send, through me, a statement and if I might start with that one and then I'll get onto mine.

Senator CHAFEE. Thank you.

Mr. ARCHER. First of all, he thanks you for the opportunity. Mr. Marvel is the Superintendent of the Woonsocket Water Department and is also the Secretary of the Rhode Island Water Works Association and his statement is pretty much on behalf of the association. It says the Rhode Island Water Works Association is Rhode Island's environmental association of water supply professionals. Our membership is comprised of 200 engineers, scientists and national resource managers dedicated to the protection of public health through the provisions of the Safe Drinking Water Act. We represent systems of all sizes with diverse sources of supply and water quality.

The Association supports the Safe Drinking Water Act as a necessary tool for the protection of public health. With few exceptions the treatment facilities in Rhode Island are well maintained and officially operated, however, most of our facilities have not been upgraded in more than 20 years. There is a need for capital to perform routine rehabilitation and replacement of systems just to meet today's water quality standards. Our larger communities such as Providence, Pawtucket, Woonsocket and Warwick have a substantial amount of piping that are approximately 100 years old which require replacement and rehabilitation in order to maintain water quality to meet microbiologic standards. The age condition of water systems coupled with the water quality problems experienced over 100,000 Rhode Islanders this year point out that there is a dramatic need for large amount of capital to meet current standards.

When one considers the financial impact of monitoring costs and treatment requirements of the proposed regulations like radon, arsenic and asbestos it is not difficult to see that the utilities are not able to fund both the rehabilitation of their system and additional provisions of the Act. At recent public hearings in Woonsocket city residents turned out to voice their opposition to increased utility rates. In Rhode Island today there is a lack of will on the part of the people to fund increased governmental spending without demonstrating adequate need.

The position that Rhode Island Water Works Association is that except for contaminants which present a clear risk to public health the Act should remain at its current status and be reevaluated based on actual risk and benefit to the public. The addition of 25 new contaminants every three years for an undefined future period is not the best use of public funds. This provision should be deleted from the Act. Better criteria for setting drinking water standards

should be developed based on sound scientific principles and the various risk to public health. Rhode Island Water Works Association supports the position of the New England Safe Drinking Water Act Task Force and American Water Works Association position on the resource issues and that completes Mr. Marvel's statements, Senator.

Senator CHAFEE. All right. Why don't you go ahead on your own?

Mr. ARCHER. All right, sir. Again, thank you. At the current time I'm the Acting Chief Engineer for the Pawtucket Water Supply Board having obtained that position on October 20, 17 days after the crisis ended. Prior to that I had been with Providence Water Supply Board as the Executive Director, Former President of the Rhode Island Water Works Association and Past President of New England Water Works Association. It is interesting that you have these hearings today considering it is National Drinking Water Week this week and we appreciate your coming down this week to do that.

I have a position paper from the New England Water Works Association which I will put into the record and not read. (See p. 27.) The Executive Committee of the Rhode Island Water Works Association does agree with these positions as Mr. Marvel stated. Actually I would like to take my focus, since a number of things have been said here, on the complexity of the Act, I would like to make these remarks as they relate to the Pawtucket Water Supply Board's system. Under the Act EPA has developed several rules which in some instances provide conflicting requirements for a water system. For example, in Pawtucket the operations required to meet the disinfection contact time requirements of the surface treatment rule could seriously affect our ability to meet the corrosion control requirements of the lead and cooper rule. The pH level necessary to assure sufficient contact time conflicts with the ability to assure that the corrosion inhibitor which is used to control the lead levels is distributed throughout the distribution system. In addition the levels of zinc in the water, and zinc orthophosphate is the corrosion inhibitor used, cause some of our customers to have difficulty in meeting the discharge requirements established under the Clean Water Act.

While these problems can be solved the hard and fast dates established under the Act frequently do not allow the systems to properly evaluate the effects of the interaction of different methods of treatment and operation.

There is reason to believe that the recent outbreak in Milwaukee was at least partially caused by inadequate evaluation of changes in the treatment process. I also have a statement by the Commission of Health for the City of Milwaukee which was made to the subcommittee on Health and the Environment which is Chaired by a Representative from California who we are all very familiar with, Representative Waxman. Mr. Paul Nanis' statement is that last fall the Milwaukee Water Works changed coagulant from alum to polyalumin chloride to lower the pH in our tap water in accordance with the new EPA guidelines on lead of 15 parts per million in 90 percent of its samples. We did not meet that level prior to this time and instead of doing the conversion studies that were needed we moved quickly because of the attention and concern we

had regarding lead leaching from household pipes in the vicinity of the water. It is alleged that at least partially that this change of coagulants was partially responsible for the outbreak of cryptosporidium which was a problem with 400,000 or so people in Milwaukee. Just an example, a couple of examples of the need to provide some flexibility to the primacy agency in enforcing this Act in establishing the schedule for completing the necessary changes.

As you heard from Mr. Rafonavic today there certainly is a moving target, 25 new contaminants every three years is one that makes all of us pull our hair out fortunately I still have quite a bit and the rigid process by which this is established makes it very difficult to properly evaluate all the inter-relations that you want. And we also want to make sure with all due respect to our friends at the State and Federal regulatory level, Senator, the people who run the water systems are directly responsible to the people who get the water bill and the only other one I think in this room is you who every six years is directly responsible to those people as well so let's make this requirement health based on scientific evidence so that people paying the bill, the water consumers, in fact understand that they are getting benefit for the water bills they are facing.

In addition to the water systems we have much rehabilitation going on to the sewer systems. Narragansett Bay Commission is in the process of beginning a project which for CSOs which is $480 million. These are the very same people that are paying the water bills that are paying the sewer bills. Those also have to be funded. These financial requirements combined with the need to rehabilitate long-ignored systems creating additional needs for revenue although the citizens of Pawtucket have been committed to date to clean up the water systems as evidenced by the passing of two separate bond issues of $10 million each in the last three years. There still has been a building resentment to the increasing water bill. And this is occurring even before the costs of those $10 million bond issues has been included in their water bills. As the water bills increase and coupled with the need to have financing for sewer system projects which means higher sewer rates, it is extremely important that water and sewer system managers as well as policy makers can assure the citizen that he is gaining benefit for the increasing amount of the water bill. Thank you, Senator.

Senator CHAFEE. Let me ask you a couple of questions. What would be a typical water bill in Pawtucket for a family of four?

Mr. ARCHER. It's $134 a year.

Senator CHAFEE. It's $134?

Mr. ARCHER. Yes.

Senator CHAFEE. Which is around $12 a month?

Mr. ARCHER. Yes, sir.

Senator CHAFEE. I find that one of the best buys that man has.

Mr. ARCHER. Well, I agree with you, but the perception is, in this State, that water should be free and——

Senator CHAFEE. Water is not free anywhere, is it? It is certainly not free in McLean, Virginia.

Mr. ARCHER. No, it isn't, but there is that perception and the water rates have been very low for a very long time and the aspect of increasing sewer rates and water rates when coupled together do

in fact cause people to complain about them. You are aware that the economy has not been great here and in Pawtucket when you are serving water to Pawtucket, Central Falls and areas like that $10 may make more of a significant debt to them than it does to others.

Senator CHAFEE. No one wants to and I certainly don't want any press anyone here to say, he is for increased water rates, but I think it is one of the most extraordinary buys anybody can have. What does a typical cable TV cost per month?

Mr. ARCHER. My bill is about $32 per month for cable TV and I don't have any of the extras. Incidentally, in some areas of the State that is what the monthly water cost is. Bristol County, for example; I think Newport has higher rates. These are some areas and if Pawtucket continues with their capital program within a few years they will be up to that level.

[The position paper previously referred to by Mr. Archer follows:]

NEW ENGLAND SAFE DRINKING WATER ACT TASK FORCE

- POSITION PAPER -

Background

In response to common concern about the Federal Safe Drinking Water Act and its 1986 amendments (the Act) and an increasing inability to comply with its mandates, water industry professionals, environmental and consumer organizations and citizens from throughout New England convened. The group, known as the New England Safe Drinking Water Act Task Force (the Task Force), has met over a period of four months to discuss the existing Act and to consider changes that would make the fundamental goals of the Act more attainable.

Position on Proposed Amendments

Although the interests of the Task Force members are diverse, all agree that the Act is critical to the continued protection of public health and the preservation of the nation's drinking water resources.

In drafting specific amendments to the Act, we considered three points which we believe are key to strengthening the Act and to ensuring its long term success: 1) Administrative flexibility; 2) Adequate funding; and 3) Retention of state primacy. These points are discussed in more detail below. References to our proposed amendments to the Act are highlighted.

Administrative Flexibility

As presently written, the Act requires suppliers of public water to comply with regulations that provide limited flexibility in their application.

The Act fails to recognize differences in the quality of water resources or the range of alternatives available to preserve and protect these resources. The Act prescribes a narrow set of options for meeting water quality standards, emphasizing filtration as the preferred course of action in protecting water supplies. Although appropriate where there is evidence of water-borne diseases, filtration is not needed for high quality source waters where implementation of wellhead protection and watershed management measures would be less costly and equally, if not more, effective in preventing contamination.

The Act should consider differences in water systems and the level of treatment required. Treatment requirements should relate directly to existing and measurable contamination and should be achievable both economically and technologically. Prevention

measures such as wellhead protection and watershed management should be acknowledged as viable compliance measures and their implementation recognized as primary methods of protecting water supplies where appropriate.

The Act requires that regulations be established for 25 new contaminants every three years. This arbitrary regulation of public water supplies does not consider actual threat to public health and is not a productive use of limited federal resources. ***This requirement should be deleted from the Act and a better criteria for regulating contaminants that pose a human health risk should be developed.***

If treatment is necessary, priorities for treatment should be based on cost/benefit analyses, where the degree of risk to public health is clearly demonstrated. The opportunity to phase in treatment, in order of priority, should also be allowed. The order to treat for all contaminants at the same time, regardless of degree of public health threat, is cost-prohibitive. Where water quality conditions mandate filtration, the Act dictates a schedule for facility design, testing and construction that guarantees widespread non-compliance.

The Act should provide the administrative flexibility to develop reasonable compliance scheduling (including a provision allowing prioritization and phase in of treatment actions), particularly for systems which may not meet all of the Act's criteria but do not pose significant threat to public health. By allowing more flexibility in determining the most appropriate and cost-effective means of protecting a water supply source and assigning an implementation schedule that is practicable, there is greater opportunity for compliance.

Funding

Due to insufficient funding, the implementation and enforcement of the Act has become burdensome to local governments and primacy agents. We believe that Congress, in requiring compliance with the Act, has an obligation to provide the necessary financial resources.

The 1986 amendments to the Act imply that Congress will fund up to 75 percent of the state cost of implementation and enforcement. In reality, Congress provides less than 50 percent of the funds needed by primacy agents and threatens withdrawal of primacy if all rules and regulations are not enforced. This is simply unfair. ***We strongly support that Congress either provide 75 percent funding or provide primacy agents with greater flexibility in administering the Act and its mandates, without less oversight and enforcement by EPA.***

Local government compliance with the Act is also threatened given the budget deficits being experienced by cities and towns throughout the nation. *We support the creation of a State Revolving Loan Fund (SRF) dedicated to assisting water suppliers with capital improvement projects mandated by the Act.* Like the Clean Water Act SRF, the drinking water SRF would be funded from U.S. General Funds and would be matched by state monies. The program should be available to both public and investor-owned water suppliers so as not to discriminate against any group of taxpayers because of the type of entity that provides their drinking water.

Primacy

State primacy agents have a greater capability to administer and enforce the Act than the EPA since they are more familiar with their state resources and the organizations that run them. However, without increased federal and state funding, state primacy remains at risk, as evidenced in Maine. As previously stated, *we support increased federal and state funding of state primacy programs. In the absence of increased financial assistance, we advocate expanding the primacy agent's authority to allow state determination of the most appropriate treatment for each individual water supply, taking into consideration cost and state negotiation of a compliance schedule that is praticable and will not place public health at risk.* By focusing on the most effective, efficient and affordable methods for protecting public drinking water resources, we believe that statee will be able to achieve a higher degree of compliance.

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Senator CHAFEE. All right, Mr. Schisler.

STATEMENT OF LEE SCHISLER, EXECUTIVE DIRECTOR, AUDUBON SOCIETY OF RHODE ISLAND

Mr. SCHISLER. I'm the Executive Director of the Audubon Society of Rhode Island and I appreciate being given the opportunity to comment on the Safe Drinking Water Act. My remarks today will focus on the environmental aspect of protecting drinking water supplies.

The development of the Safe Drinking Water Act and its subsequent amendments was critically important in order to protect the health of the public when they turn on their taps for drinking water. Major regulatory components needed to be drafted in order to insure the public that they would receive the safe drinking water they expected from their water supply systems.

In considering options for reauthorization of the Act we would like to see additional emphasis placed on watershed protection and proper land use practices in order to curtail or in some cases eliminate contaminants entering the drinking water supply prior to treatment.

In looking at watershed management for surface water reservoirs the reduction of organics to reduce water contaminants through disinfection by-products is one area that can be looked at. Cutting back on the amount of organics in the water supply would be a desirable goal to help control this problem and we would suggest that land use around reservoirs be managed to avoid phosphate and nitrogen loading of the surface water. Phosphate and nitrogen loading leads to eutrophication and subsequent growth of the hydrophytic plants. The Safe Drinking Water Act re-authorization might consider provisions for water suppliers to protect their watershed lands from septic leachates and certain farming activities.

Regulating non-point sources of pollution to insure watershed protection would seem to be an area for the Safe Drinking Water Act to address. Watersheds by their very nature are often expansive and can frequently occupy lands that extend across State borders. Federal assistance to help States to cooperate in controlling non-point source pollution of their watersheds would be a helpful provision of the Act.

Enhancement of groundwater protection regulations to protect water supplies is also needed. Groundwater accounts for approximately 25 percent of the water supply. Current Safe Drinking Water Act regulations require States to create well-head protection regulations and Rhode Island's Department of Environmental Management has done so. It is our view, however, that the current regulations are not stringent enough to assure protection of the recharge areas that need the groundwater aquifers.

A very important part of the re-authorization of the Safe Drinking Water Act should be the retention of drinking water supplies. Water is a limited resource and it is imperative that provisions of the Act be crafted in order to conserve supplies. Regulations should provide for public hearings on change of supply and should require the comparative cost of supply alternatives, include the external

costs of developing new supply and other provisions. Should the loss of drinking supply be unavoidable, the rights to the water for other appropriate uses should be retained.

Funding for improving treatment facilities is a critical need at this point. While the regulations of the Safe Drinking Water Act were very detailed in order to protect the public from a wide variety of health risks associated with consuming public drinking water, the funding structure to make the Act's goals achievable has needed some help. Water suppliers need assistance to upgrade facilities in order to meet the standards with their current water supply. There is some indication that a few suppliers have even gone to selling watershed lands to pay for system upgrades. Federal funding in the form of a revolving loan fund would help ease the burden of funding for the upgrading of treatment facilities.

In summary, the environmental considerations under re-authorization of the Safe Drinking Water Act should focus on preventive actions to protect water in recharge areas. In addition supplies should be retained and the re-authorization should accommodate keeping these limited resources. The Safe Drinking Water Act is one that is needed to insure safe drinking water for the public. Unfortunately, it has seemed to have had a chronic under-funding problem particularly in the areas of enforcement and assistance to water suppliers to upgrade treatment facilities to comply with the standards set by the Act. A sound Federal funding program to help support meeting of the requirements of the Safe Drinking Water Act is essential for proper functioning of the Act. Thank you.

Senator CHAFEE. Thank you, Mr. Schisler.

Ted Bragger?

STATEMENT OF TED BRAGGER, PRESIDENT-ELECT, NATIONAL UTILITY CONTRACTORS ASSOCIATION

Mr. BRAGGER. Senator Chafee, thank you for allowing me to comment on the Safe Drinking Water Act. I am Ted Bragger, President-Elect of the National Utility Contractors Association and President of A. E. Bragger Construction Company of Warwick, Rhode Island, member of the Rhode Island Water Works Association, New England Water Works Association, American Water Works Association.

My father started our company in 1927 and we've been building and repairing drinking water systems ever since. I am speaking today on behalf of NUCA, the national trade association that represents contractors, suppliers, manufacturers and the clean water construction business.

I am here to tell you that the drinking water infrastructure needs in the United States are tremendous in terms of the investment required for construction and rehabilitation and in terms of the devastating social, environmental and economic opportunity costs that result from our failure to devote sufficient resources to the problem. As you will see, there is no doubt that the Safe Drinking Water Act needs to be expanded and strengthened.

We recently replaced some old and decaying water lines in the local Rhode Island community. Some of the six-inch pipes have been in service for over a century and I have a couple of samples

that I would like to present at this time, I want to show you, anyway.

Senator CHAFEE. While Mr. Bragger is getting those out, I might say that we are very proud that he is the President-Elect of the National Utility Contractors Association which is a great honor to have bestowed on a Rhode Islander. So, Ted, we are proud of you. He brought these up to my office earlier so I've seen these and I commend anybody to take a look at them. Can you see against there?

Mr. BRAGGER. That is a two inch service line.

Senator CHAFEE. Two inches from the radius there and/or the diameter. The diameter is two inches. And you can see all the——

Mr. BRAGGER. Crud.

Senator CHAFEE.—build-up.

Mr. ARCHER. Tuberculation.

Mr. BRAGGER. Some of the six-inch pipes that we've encountered, as I say, have been in service for over a century and you can see with this six-inch pipe here that you can fit a ping-pong ball through the center, but you would have problems with a tennis ball. Restricted flow means that water pressure in the pipe must be increased to transport the same volume of water to the user, which means that pumping stations burn up huge quantities of electricity. In addition, restricted flow reduces the water volume and pressure available through fire hydrants. Something like this would be a fire branch. You might get one hose off a fire hydrant, you hook another hose up and your pressure is going to drop, volume is going to drop and it would be a fire hazard. Obviously there are many negative ramifications that accompany a crumbling water supply infrastructure. What I find particularly poignant is the fact that hundreds of NUCA members from any State in the land could also appear before the committee this afternoon and tell similar stories. That is an appalling reality.

A close friend of mine, NUCA's 1993 President Gerry Dorfman works on the West Coast. He recently replaced a 10,000 foot water line for a community in Southern California. Throughout the job he was plagued with suspension of work because the adjacent line, which his work was to replace, leaked like a sieve. This kind of situation entails enormous construction costs, as you can imagine, but that is not my point. There was incredible loss of water to the community. The leaking water also increased contamination downstream when it merged with sewage from leaking sewers. Again, the ramifications of a system failure were extensive. The same situation exists in many of our older communities throughout the country. Providence is a good example of this.

Despite the frequent occurrence of drinking water emergencies, most Americans continue to ignore the problem because collection, delivery and treatment facilities, unlike potholes in the road, are out of sight and therefore out of mind in the absence of crisis. Meanwhile, the predicament has become so bad that even those familiar with the issue are repulsed by the massive remedy that is so clearly necessary. The cynic in me wonders how many deaths such as those caused by the recent water quality crisis in Milwaukee must occur before we get serious.

Two years ago NUCA funded an important report by Apogee Research entitled America's Environmental Infrastructure: A Water and Wastewater Investment Study. In 1988 constant dollars, the report concluded that a $17 billion national drinking water infrastructure deficit would exist for the eight-year period 1993 to the year 2000 above and beyond what the States themselves elected to invest. Additional Federal investment is urgently needed.

NUCA strongly supports the creation of a new State revolving loan fund program dedicated to the construction of necessary drinking water infrastructure projects. We are very pleased that the President demonstrated his commitment to such a program in his budget request for fiscal 1994. His proposal to spend $599 million in this area next year is certainly a step in the right direction so long as it does not reduce the Federal commitment to wastewater collection and treatment.

We also hope to work closely with this Committee when it authorizes the drinking water construction program. For example, we will ask the committee to include legislative language stating that all construction work funded by the Federal Government be publicly bid.

I would like to conclude by pointing out that drinking water projects generate benefits to the economy in addition to environmental protection and public health. For example, a 1992 study released by NUCA concluded that as many as 57,400 jobs are created for every $1 billion invested in water supply and wastewater treatment. These are good jobs that pay good wages. Once on line clean water systems increase the rates of private return to capital, increase labor productivity, increase private investment in plant and equipment, increase the tax base and save enormous amounts of money on energy costs.

Senator CHAFEE. Because of the pumping?

Mr. BRAGGER. Because of the pumping. In this case here you'd pump probably two-and-a-half to three times, it would cost you that much more to pump water through this to get the same volume of water beyond because you would have to increase your pressures. And I'm sure that Mr. Archer can attest to that fact. I believe that in Pawtucket alone the costs have dropped over 40 percent because they have done the restoration of the infrastructure. It is amazing.

I read the article by the Senator that appeared in the Roll Call this morning and it appears that the Senator is sympathetic to our concerns. As always NUCA appreciates the opportunity to testify before the Environment and Public Works Committee to provide the construction contractors' point of view. Thank you, sir.

Senator CHAFEE. Not that I'm unsympathetic, but that article was about the Clean Water Act, namely the waste treatment.

Mr. BRAGGER. But I thought I would kind of put that in.

Senator CHAFEE. You also do sewers, too.

Mr. BRAGGER. A little bit, yes.

Senator CHAFEE. Let me ask you about the cost to put a lead service line in.

Mr. BRAGGER. To replace a service——

Senator CHAFEE. Say in Pawtucket.

Mr. BRAGGER. From the street to the curb stop you are looking at probably $17 to $1,800 by the time you take the road repairs and

miscellaneous fittings and that brings you to the curb stop, it doesn't take you to the house.

Senator CHAFEE. I'm not sure I was thinking from the house. Where were you taking it to?

Mr. BRAGGER. From the water line to the curb stop in the sidewalk. You are looking at roughly $17 to $1,800. Now to go from the house, from the curb stop to the house which is usually 35 or 40 feet, you probably got another $800 to $1,000.

Senator CHAFEE. I'm not sure I understand the first one. The pipe is right there by the curb, isn't it?

Mr. BRAGGER. Well, it is usually six feet off the curb which is 16 feet off the property line on the short side. On the long side you've got over 30 feet.

Senator CHAFEE. You mean across the other side of the street?

Mr. BRAGGER. Yes. You have road repair but on an average you can figure $17 or $1,800.

Senator CHAFEE. Are those service lines lead?

Mr. BRAGGER. I believe, no, well in Providence they have in the neighborhood of 32 to 35,000 of them. Your newer communities are either plastic or copper. Your older communities run, oh, galvanized pipe, lead, then they have tubaloid and then copper. Copper came in oh, just before the war but then the copper was hard to get during the I say the big war, World War II, then there was tubaloid and then that has since failed in a number of places then they started back into copper again, copper and plastic, so anything before 1930 or" 35 would be lead or galvanized.

Senator CHAFEE. Mr. Archer, you have been in the Providence system, you have been, obviously, in the Pawtucket system, what kind of shape are we in as you see it?

Mr. ARCHER. Well, the Pawtucket system is a classic example of a system that just was not maintained for years and years and years. Ted has pointed out that if it is underground and not seen, it is easier to ignore. And for many years former chief engineers encouraged the administration of the cities to float some bonds, get some money, do some work and because of other pressing priority needs in the cities the water system generally was left without significant funds. Of course water systems are very capital intensive so that you need large amounts. At the present time the people in Pawtucket have already approved $20 million worth of bond issues out of an anticipated need of about $70 million and that will mean their rates will go up, but in fact, they approved the second $10 million some months, one month after the end of the crisis at the election in November, they approved it by five to one, Senator, so they definitely know that things have to be done on the system. Of that, if Pawtucket continues on that path in the next 10 to 12 years they will have a very good system. They will be in good shape.

Senator CHAFEE. What do you do? You said that they failed over many years to provide for the maintenance. What do you do when you've got a pipe in the ground, how do you maintain it?

Mr. ARCHER. Well, one method you mentioned earlier, flushing systems, flushing systems has a tendency to not allow this kind of build-up. It builds up over the years because of lack of attention to it. Flushing helps to do that. The actual——

Senator CHAFEE. How do you flush it, you put water through it at extra high pressure or something?

Mr. ARCHER. What we've actually done is you use the system pressure and we've actually isolated certain areas of it and turned on hydrants and watched the water and measure the turbidity of it and measure the amounts of solids that are in the water. We've basically done a flushing program for the entire City of Pawtucket and we would have to run hydrants for seven or eight or nine hours in some cases depending upon the age and the area of the city that it was in order to do that. This takes a lot of time, a lot of effort, you use up a lot of water that goes into the into the sewers. The sewer system then has to handle that. But it is one method which is traditional in the industry and recommended by EPA in this particular case Dr. Geldrich who is one of the leading authorities of microbiology did come out and discuss

Senator CHAFEE. Once you got that far, though, it is too late, isn't it?

Mr. ARCHER. That is true and depending upon the size of the pipe and the economics of it, it is either easier to replace generally the six-inch pipe and probably even up to eight, it is generally less expensive to replace this pipeline with new ductil iron pipe with cement lining on the inside of it. Cement lining essentially prevents this particular problem because that problem is caused by an interaction of the chemistry of the water and the iron and with the cement lining you have an inert material which is next to the water and basically keeping that from happening. Providence system, as you mentioned, I was there for many years, the chemistry of the water is treated so that it is non-aggressive to the pipelines and if you open our pipelines in Providence that are as much as a hundred years old, you will not see that particular situation in Providence. The chemistry of the water in Pawtucket is different. The difference being, you were at the Scituate system which is right at the reservoir, Pawtucket has its plant in Cumberland so there is an over-ground stream that runs from the reservoirs which have reasonably pristine water to the treatment plant and Mr. Schisler's comments regarding watershed protection and everything that runs into that stream all the way down gets into the water, you can't get it all out and it goes in and creates reactions with the pipeline.

Senator CHAFEE. Is there a type of Roto-Rooter That can be used?

Mr. ARCHER. We did that on the larger pipe and that is what we are doing now. It is called a pig and it is like well, it is like an eight-inch shell, Navy shell. In fact you signed my promotion to Lieutenant Commander, so——

Senator CHAFEE. I remember that.

Mr. ARCHER. But that has the same paper kind of very rough surfaces on it. It is forced through with water and it kind of cleans all of this out and it is

Senator CHAFEE. That is what you call maintenance?

Mr. ARCHER. That is rehabilitation when you get to that point. Then you actually send through a little trolley with a little machine; I'm not sure how it works. Ted, you know more than I do about it, but a cement lining on the inside of the old pipe which is structurally sound and that is what we are doing now.

Senator CHAFEE. That is what you are using your bond issues for?

Mr. ARCHER. That is correct. The second bond issue we haven't isolated. We need distribution storage and we need improvements to the existing water treatment plant but Pawtucket has so many things that it needs to do it is a matter of establishing priorities.

Senator CHAFEE. Mr. Schisler, where do you rank drinking water quality with some of our other environmental problems?

Mr. SCHISLER. I see it as a very high priority. I think the American public has the government and the public's relationship in this particular area is very closely tied. I think the majority of Americans don't have a real sense of quality issues as far as drinking water goes and they really put their faith in "the system" to provide that for them and I think this is an area that the Safe Drinking Water Act addresses very well and something we need to stay strong on, to not betray that trust of the public.

Senator CHAFEE. In other words, people rather accept having safe drinking water.

Mr. SCHISLER. I think most people do unless they have obvious turbidity problems or something they can actually see. We were talking about radon earlier which is something that is very difficult for somebody to internalize that it is a threat, and I think it is pretty much the same with the water situation, unless they can see obvious problems they assume it is fairly good. They trust the system to provide that for them.

Senator CHAFEE. When I was Governor we started the Wood River Reservoir and the Big River. Your predecessor spoke to me on a subject that I hadn't really thought about which was that every time you think of building new reservoirs and you are going have more water you better think of where it is going to go, in the waste treatment systems and the sewer plants, you are going to have to go with it and I'll have to confess I never made that connection. I cheerfully went ahead, figured we are going to need new water supplies and I didn't spend time thinking about the treatment facilities to handle the water when you are finished with it, but I mentioned conservation and it seems to me that there is a deterrent against conservation obviously if the cost of the water isn't very much.

Mr. SCHISLER. I think that is one of the problems, that water is a very cheap buy, and people don't really get a sense of what it costs to produce that water. Conservation measures would extend supplies a little longer down the road, would delay the implementation of providing extensive new water supply development projects, like you mentioned, and it has variety of other positive spinoffs also, conservation does. You would be using less water, the individual would be using less water so the utilities would have to recoup that, obviously to take care of their internal costs. But the person that would be using conservation practices would be using less water so the total cost to the consumer would be close by using conservation measures but the spinoffs to that would be you'd have less would you have to develop less supply and current supplies would last longer.

Senator CHAFEE. What would you like us to do under this Act, supposing a reauthorization?

Mr. SCHISLER. Well, I think as I mentioned in my testimony that we would like to see some things on land use planning and watershed management being incorporated into this. Massachusetts has a program called areas of critical environmental concern. That is a program that they've developed to protect not necessarily water supplies but just any area that is a critical environmental concern and gives it a higher priority when deciding land use practices and zoning decisions and that sort of thing. Of course the Narragansett Bay Commission was an effort at protecting the bay and its rivers and tributaries that come in and feed it, so I would see that a long-term benefit of the re-authorization would be to develop some more watershed protection strategies and land use strategies.

Senator CHAFEE. You mentioned in your testimony about non-point source pollution. As you know, that is a matter that we take up under the Clean Water Act dealing with the waste treatment side of things rather than the drinking water side of things.

Mr. SCHISLER. Yes.

Senator CHAFEE. Mr. Archer, what about the protection of your of the water supplies? You don't buy from Scituate, do you, you have your own reservoir?

Mr. ARCHER. Pawtucket has its own reservoir, Diamond Hill and Cumberland Reservoirs in the northeast corner of the State.

Senator CHAFEE. Mr. Schisler indicated that some areas were selling off watershed land, was that what you were saying?

Mr. SCHISLER. No; our information was from Connecticut and New Jersey.

Senator CHAFEE. How is your supplies?

Mr. ARCHER. Well, in 1987, the State of Rhode Island passed the Raw Water Quality Protection Act requiring all water systems with original sources, sources of supply, to create a plan to protect their watershed and in addition to that there was a penny per hundred gallon surcharge which amounts to a fairly stiff surcharge compared to the rates that are in effect today, that surcharge was to be dedicated to the systems to allow them to use those funds in order to purchase land, to lease land, to buy development rights to do various other kinds of things in the watershed that would assist in protecting basic rural water quality. Since it was effective, in 1989, and since that time the money has been being paid by all the water systems, actually a surcharge right on the water bill identified as such being paid to the State of Rhode Island to a dedicated fund which has been under the control of the Water Resources Board. Early this year the Water Resources Board, actually late last year the Water Resources Board started the process of issuing bonds to leverage that money to implement their plans. That is sort of held up now because the Governor is in the process of eliminating the Water Resources Board so everything is in limbo in that particular area however, ultimately we expect that it will happen and the funds that were sent into the surcharges will come back to the systems and we will implement the plan, we are in process. We could use a few million dollars right now. We've worked with the Town of Cumberland and the State of Rhode Island under open space funding to buy some critical land that was in there, so——

Senator CHAFEE. You couldn't find a better time to buy.

Mr. ARCHER. That is true. Providence is in the same situation.

Senator CHAFEE. How much do you think is in that fund?

Mr. ARCHER. Well, Pawtucket has sent $1.7 million; that is the largest individual. Providence has its own fund so Providence is not included in that group. I would guess there is somewhere in the neighborhood of $4 million right now.

Senator CHAFEE. How much?

Mr. ARCHER. About $4 million.

Senator CHAFEE. For Pawtucket or the whole fund?

Mr. ARCHER. So for all of the State, all of the State with the exception of Providence and the Providence system.

Senator CHAFEE. Don't let them grab it off you.

Mr. ARCHER. We are doing our best.

Senator CHAFEE. OK. First of all, I want to thank you all for coming, each of you, and I think it is important that we move ahead with this. Again, Mr. Elder was here earlier, as you know, and what the administration plans to do, we don't know. The Senate Environment Committee, obviously would want to find out what the administration is interested in, what do they want to proceed with, do they want to proceed with the Clean Water Act, do they want to do something on the safe drinking water, endangered species, superfund, so we look to the administration for some clues as to what they have as a priority. We haven't received that yet from the Administration because the Administrator of EPA does not yet have all her Assistant Administrators aboard.

In fact, the only one in the Environmental Protection Agency that has been confirmed is Ms. Browner herself so, as I say, we look for clues as to leadership from them. After all, they won the election, it is their Administration, what would they like to have done? I myself would like to get going on the Safe Drinking Water Act because of the problems that we've mentioned before so many times and that would be certainly greater flexibility for the States in deciding how to proceed with these various contaminants.

As for the money I just don't know. The Administration has indicated that it was prepared to put the money in the budget but that has a long ways to go because of budgetary difficulties plus that would be paid for by new taxes and whether the Congress will approve the new taxes remains to be seen. I've certainly learned a lot today. It has been very helpful and I want to thank all of you for coming.

Thank you, the hearing is adjourned.

[Whereupon, at 4:20 p.m., the committee adjourned, to reconvene at the call of the Chair.]

[Statements submitted for the record follows:]

TESTIMONY OF
JAMES R. ELDER
DIRECTOR, OFFICE OF GROUND WATER AND DRINKING WATER
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE

May 3, 1993

Good morning, Senator Chafee and members of the Committee. I am Jim Elder, Director of the Office of Ground Water and Drinking Water at the U.S. Environmental Protection Agency. I am pleased to be here today to discuss Safe Drinking Water Act (SDWA) implementation and the Administrator's initiative to support this important public health protection program.

The recent serious contamination problem in Milwaukee, like the events of last summer in North Kingstown in Pawtucket, serve as reminders to all Americans that we cannot continue to take safe drinking water for granted. EPA and the States have made considerable progress in implementing the 1986 amendments to the Safe Drinking Water Act, yet the Milwaukee situation and several other incidences of waterborne disease outbreaks remind all government officials that we must renew and strengthen our commitment to protect drinking water supplies and public health.

The Clinton Administration is absolutely committed to strengthening drinking water protection efforts at all levels of government. As you know, in mid-February, the President proposed creating a State Revolving Fund to spur infrastructure investment in drinking water treatment facilities. Federal capitalization of such a fund reflects the President's strongly held view that

investment in the nation's environmental infrastructure is not only good for public health, but also provides the needed foundation for economic progress. Construction of improvements to treatment facilities that are protective of public health creates jobs, reduces the costs of medical care, allows communities to develop economically, and assures the public that we may safely rely on tap water for our daily needs. We are in the process of finalizing an Administration position that clarifies our views on the details of the SRF, and look forward to working with this Committee to achieve this initiative for FY 1994.

Funding for water supply treatment is not the only answer to protecting drinking water quality. It is important to stop contamination before it enters a drinking water treatment facility whenever this can be accomplished in a cost effective manner. Consistent with the principles of pollution prevention, this critical line of defense against public health threats must also be strengthened. We still believe in an economic investment program that will provide new funding for investment in municipal wastewater treatment and watershed restoration, which would be in addition to the funding proposed for drinking water treatment in FY 94, and would assist States and localities in restoring and protecting water quality. EPA Administrator Carol Browner urges the Congress to give great weight to the environmental and public health benefits (as well as economic benefits) of supporting the water programs that would come from a drinking water SRF, as well as any of the proposals that were included in the President's investment plan.

We look forward to working with the Senate on these important drinking

water issues. I know you share our concern that the SRF fund be administered with the highest degree of efficiency and integrity. To this end, we will continue to work on ways to benefit from the experience and expertise we have developed in the waste water State Revolving Fund under the Clean Water Act.

Obviously, the Revolving Fund is an important part of the answer to our drinking water protection needs, and we believe the President's proposal deserves the immediate attention of Congress. But it is not the only area where we need to make progress. The General Accounting Office (GAO) reported in its recent review (Drinking Water: Key Quality Assurance Program is Flawed and Underfunded) that many State drinking water programs are unable to keep up with program implementation demands. We are increasingly concerned with the ability of States to uphold the responsibilities of primacy for the drinking water program. For example, States are falling further behind in conducting sanitary surveys, an important component of State drinking water programs. I know the State of Rhode Island is finding it difficult to meet the demands placed on its drinking water agency while strengthening their sanitary survey program. We agree with the findings of GAO on this issue. EPA's approach has been to emphasize immediate public health protection needs, such as the implementation of the Lead and Copper Rule and the Surface Water Treatment Rule, and, considering the realities of State budgets, this sometimes means that States have difficulty meeting other important demands and requirements. EPA will continue to deliver its formal sanitary survey training course to the States (three sessions are planned for this year) and is

looking into the development of guidance for states to use to improve their sanitary survey programs, particularly in following up to rectify water system problems.

However, no level of Federal technical support or training will address the fundamental issue of State program funding. Although EPA has established priorities for the States, our guidance was not intended to solve the problem of inadequate State funding by allowing violations of program requirements. In most States, increased financial support for drinking water programs must be found. The Federal government increased its share from $50 million in Fiscal Year 1992 to $59 million in FY 1993, but all levels of government must remain committed to ensuring that states have adequate funding.

Although many state drinking water programs face severe problems, we are committed to working with the states to revitalize the nation's drinking water program. In July 1993, EPA will provide recommendations to Congress for SDWA reauthorization, as required by the Chafee/Lautenberg amendment to EPA's FY 93 appropriations bill. We appreciate the opportunity to provide recommendations to Congress as you requested last fall. While we are not prepared to provide detailed recommendations at this time, the preservation of State primacy is clearly a top priority. We are reviewing several options for encouraging increased State funding as well as other changes to allow States to administer their programs more efficiently. We are presently formulating an Agency position on many of these SDWA issues through both intra- and inter-agency meetings, and look forward to bringing the issues to the Committee's attention as it looks at SDWA

reauthorization.

In addition to State primacy recommendations, our report will address a range of issues related to the effectiveness and efficiency of the drinking water program. These issues will include small systems compliance, streamlining enforcement, and alternative approaches for selecting contaminants and setting standards.

In all of EPA's recommendations we intend to build on the basic premise of the Act -- that safe drinking water is a national concern and a right of all Americans. I look forward to working closely with the Committee when the reauthorization process begins.

Thank you for the opportunity to address the Committee on this vital topic for the environment. I would be happy to answer any questions you may have.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
D E P A R T M E N T O F H E A L T H

THE STATUS OF THE SDWA PROGRAM IN RHODE ISLAND
3 May 1993

My name is June Swallow. I am the Chief of the Division of Drinking Water Quality here at the RIDOH. My division regulates public water systems and bottled water. We also run a surveillance program of private wells near areas of known groundwater contamination.

The public water program reviews and approves all new sources of supply and design plans for treatment. We implement the Safe Drinking Water Act and do most of the necessary sampling ourselves. We also maintain a comprehensive sanitary survey program. There are 14 people in the program, which is approximately 8 less than what are needed. We are developing a permit-to-operate fee system to partially fill the funding gap. So far we have adopted all the rules and have implemented them on schedule. Unless the program gets additional resources, this is most likely the last year I'll be able to say that. To achieve that we've had to cut back on sanitary surveys in community water systems, surveillance of our treatment facilities and technical assistance.

The program regulates roughly 500 RI PWS. Twenty-five of these are large or medium sized community water systems. All of the rest are small systems serving less than 3300 people.

In general, the large water systems are keeping pace with the regulatory changes. Almost all are having difficulty with complying with one aspect or another of the new rules, either SWTR or Lead & Copper, and all are concerned with the potential interference with the future rules on DBPs of enhanced SWTR, but they are doing what is necessary to comply. Reading that water rates at one pws or another are doubling is now commonplace. The medium sized systems, as a group, are falling behind. For example, under the Lead and Copper rule first round of monitoring, they experienced a 50% non-compliance (either M & R or action level exceedence) rate. They are just now realizing that keeping track of the various regulatory requirements is a full-time job.

The small systems (and as I said they are nearly all of the pws) are simply overwhelmed. They do not have the financial resources to comply, and further, they do not have the technical resources to even know what it is they are supposed to do. I held training sessions on Lead & Copper and SOC Phase II, and frankly, they left the room glassy-eyed. Small systems are drilling additional wells to fall below the definition of a pws or evicting day care centers so that they will not have to be pws's anymore.

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Telecommunication Device for the Deaf (TDD): 277-2506

This is not in the best interest of public health.

There are some who feel that we have conquered the traditional concerns in water (bacteria) and that it's time to move on to the more exotic contaminants. Although there are several important contaminants in drinking water that deserve regulation (and lead and radon are among these), we cannot forget the basic public health functions. Inspections, sanitary surveys, treatment surveillance, technical assistance. Contamination of drinking water with coliform bacteria is still by far our most frequent and serious violation. Before the new TCR, we averaged 30 violations/year; under the new TCR rule we average 55 violations/year. 52 of these 55 occurred (both years) in the small pws. The reasons are untrained operators (landlords, school janitors, restaurant owners) and failing infrastructure. The next most frequent kind of violation is technical (M & R) and lastly are violations of other MCLs that happen infrequently (nitrate & VOC & radionuclides).

The new rules are forcing us to redirect manpower from the basic public health functions into rule implementation, bean counting, and enforcement of technical (not public health related) violations. The new rules are also forcing treatment equipment, such as disinfection and corrosion control, into VSS. Neither of these trends are necessarily in the best interest of public health.

We need a change. We need increased resources, we need a slower implementation schedule, we need greater flexibility when dealing with small systems, we need to revisit our priorities from the broader perspective of impact on public health as a whole. We need a source of funding for small system improvement and consolidation, and the states need to be partners in the regulation development process (not interested 3rd parties). Otherwise the regulations will continue to be overly complex and difficult to implement. The answer to the program's imbalance between its broad statutory mandates and its severe resource constraints is not to retreat from SDWA's mission. Instead, the solution is to address the problem directly by focusing our efforts on measures that achieve the maximum public health benefit within the resources available to state and Federal programs to responsibly implement and enforce the program. At the same time, I believe that in order to meet the resource demands of even the current statute, Federal funding must increase substantially as a percentage of the total funding from both state and Federal sources. This must be done not only to expand the drinking water programs' resource base, but also to demonstrate Congress' commitment to its public health mandates.

* * *

SPECIFIC LEGISLATIVE RECOMMENDATIONS

These recommendations represent a "fine tuning" of the statute rather than a major overhaul.

Identifying Contaminants and Changing the Standard-Setting Process for Future Regulations. The drinking water program must focus on contaminants whose public health risk are sufficient to warrant regulation, and the current criteria for establishing drinking water standards should be expanded to include specific criteria for public health protection, technical capability, and affordability.

The statute should be amended to eliminate the requirement that National Primary Drinking Water Regulations be established for 25 new contaminants every three years. Instead, new regulated contaminants would be selected based on whether their health risk, occurrence, and comparative risk from other exposure pathways warrant regulation.

State-EPA Coordination and Rule Development. Because each state program is the most familiar with the varied circumstances (e.g., legal, administrative, environmental) specific to its state, it is essential that state-EPA coordination be greatly increased so that states may appropriately respond to these state-specific circumstances within the context of the Federal mandate.

Amend the statute to provide for the following:

a) As part of EPA's drinking water rulemaking process, require review and approval of draft proposed rules by a newly created State-EPA Coordinating Council on Rule Development and Implementability.
b) Require EPA, at the time of rule proposal, to explicitly address state capacity to implement the proposed rule;

Promoting State Primacy. Because each state program is the most familiar with state-specific circumstances, it is in the best position to implement SDWA's regulations and should have primacy whenever possible.

Amend the act to stipulate that primacy may not be withdrawn from a state if such withdrawal would cause a net reduction in public health protection.

Assuring Adequate Federal Funding. It is essential that the national resource base for drinking water programs be substantially expanded to assure that the full scope of SDWA's vital public health mandates are achieved.

Protecting Small Communities. The large and complex requirements of SDWA's regulations are often beyond the capacity of small communities to meet, and yet they should be afforded the same public health protection as larger communities (NOTE: ASDWA is further developing this statement to include specific recommendations on how this will be achieved)>

a) Promote greater system viability and discourage small system proliferation.
b) Provide limited subsidies for small system monitoring.
c) Establish BATs appropriate for small systems.
d) Establish a small system compliance regulatory regime that is equally protective but allows for reduced monitoring for contaminants that do not threaten the system.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF HEALTH

ENVIRONMENTAL HEALTH RISKS IN RHODE ISLAND
Robert Vanderslice, Office of Environmental Health Risk Assessment
3 May 1993

Thank you for the opportunity to participate in this panel. I am here to discuss the health effects associated with drinking water contaminants in Rhode Island. I'd like to present this issue from the perspective of our Office which responds to public concerns not only involving drinking water but also air pollution, soil contamination, physical hazards associated with non-ionizing radiation, and a host of other issues. I will focus on issues specific to drinking water after putting these problems in the context of general environmental health problems in this State.

What are the major environmental health risks here in Rhode Island? Another way to phrase this question is to ask, "How does poor environmental quality make people sick?" or, alternatively, "Of the thousands of chemical contaminants and other environmental hazards found in the State, which ones are most important with respect to their impact on human health?" Here are a few:

Childhood lead poisoning. From my perspective, lead is the most important environmental health risk in Rhode Island. In many Rhode Island communities, blood lead levels for the majority of young children exceed 10 ug/dl, the State's criterion for poisoning (a criterion also used by the Centers for Disease Control and Prevention (CDC) to define unacceptable levels for a community) and as many as 15 to 20% suffer from significant lead poisoning, i.e., levels warranting medical follow-up. Both because of the large number of children affected, and the potential for lead to cause permanent learning impairments and other central nervous effects, there is general consensus that lead is at least among the most serious of the State's environmental health problems.

Lung cancer. Although a smaller number of people are affected, lung cancer is clearly an environmental health risk of importance. Among non-smokers, lung cancer is often assumed to be caused by environmental agents, most notably Environmental Tobacco Smoke (ETS; also referred to as second hand or passive smoke) and radon, a radioactive gas that although naturally occurring is far from benign. Agents such as radon also act synergistically to increase lung cancer rates among smokers. Together, radon and ETS account for approximately 35 to 70 lung cancer deaths per year in Rhode Island.

Other health risks. Of lesser importance, perhaps, are health risks which are equally as prevalent but are less serious. Most scientists would agree that risks of sunlight-induced skin cancer, as well as food- and water-borne gastrointestinal illnesses are significant environmental health problems even if most cases are easily treated. Some types of skin cancer are fatal, and gastrointestinal diseases such as diarrhea can be extremely serious, especially for the very young and very old.

Scientific debate occurs on the exact magnitude of these problems, but there is general consensus that these are all significant problems. Other problems, especially occupational health risks and heart disease associated with ETS, could also be included in this list as well. Although sunlight and environmental tobacco smoke are not problems associated with drinking water, inclusion may help put the problems associated with drinking water contaminants into perspective. The specific issues with regard to drinking water contamination are described below.

Lead and Copper Rule. The Lead and Copper Rule, promulgated under the authority of the 1986 Safe Drinking Water Act (SWDA) Amendments, is the US EPA's attempt to solve the problem of lead in drinking water. Water suppliers who are trying to comply with this technically difficult and financially burdensome rule have complained bitterly about these requirements. Across the country, state drinking water program managers who must struggle

to enforce this rule do not sing its praises, either. However, because of the widespread recognition of the seriousness of the problem of lead in drinking water, compliance has been good and the cries of backing off from the rule's requirements have decreased somewhat.

However, from our Office's perspective, the problem is not lead in drinking water, but childhood lead poisoning. For lead poisoned children in Rhode Island, lead paint hazards and lead-contaminated dust and soil are the predominant routes of exposure to lead. For the vast majority of these children, the lead content of their drinking water is relatively low. When levels are high, neither water suppliers nor State drinking water programs are required to address the medical needs of an individual child.

Proposed regulation of radionuclides. The issues relating to radon are similar to those discussed above for lead. Rarely does radon in drinking water account for a significant percentage of an individual's total radon exposure. However, because of the value of reducing all preventable radon exposures, regulation of radon in drinking water can be justified as cost-effective measure to reduce cancer rates. State officials tend to be skeptical of such analyses based on their experiences in the "trenches." Although radon is easily removed by aeration, aeration introduces bacteria into a groundwater that otherwise would not need disinfection. The challenges of operating an effective disinfection system are not trivial for many of the hundreds of small water suppliers represented by schools, trailer parks and other small communities. Are we simply trading a theoretical reduction in cancer risk for an almost certain increase in the risks of waterborne bacterial diseases?

Prevention of bacterial contamination of drinking water. The problem of bacterial contamination of drinking water continues to be an intractable problem. Residents of Pawtucket and North Kingstown are all too familiar with the implications of bacterial contamination of a drinking water supply. SDWA requirements promote rapid identification of bacterial contamination problems, but lack a footing in public health prevention measures. The coliform rule could be improved by a commitment to preventing bacterial contamination and emphasizing preventative maintenance.

The SDWA Amendments of 1986 prescribed a very specific agenda to address public fears about drinking water quality. Lead, radon and bacteria serve as examples of drinking water contamination problems which will require creative solutions which go beyond the 1986 Amendments prescribed remedies.

Environmental Aspects
Safe Drinking Water Act 1986
Protection by prevention

My name is Lee C. Schisler. I am Executive Director of the Audubon Society of Rhode Island. Thank you for the opportunity to comment on the Safe Drinking Water Act and possible means to strengthen its provisions during reauthorization in order to assure adequate potable water. My remarks will focus on environmental aspects of protecting drinking water supplies.

The water resources of an area are governed by the amount of precipitation, the rate of evapo-tranpiration from vegetation, and the volume of surface runoff. We need to protect this limited resource both as surface water and as groundwater.

I. **Watershed Management for Surface Water Reservoirs**

A. **Reduction of organics to reduce Disinfection By-Products (DBPs)**

The use of chlorine as a disinfectant for drinking water supply has caused concern about by-products that are formed when chlorine combines with naturally occurring organic substances. Alternative disinfectants are not without their own negative aspects. (1)

Better control of the organic content of the supply is an optimal strategy to control disinfection by-products. Controlling naturally occurring organics is a critical part of the equation and can be achieved chemically and mechanically. The lower the organic content of the raw water, however, the less treatment will be needed.

Thus we suggest that landuse around reservoirs be managed to avoid phosphate/ nitrogen loading in water and subsequent eutrophication, that enhances growth of hydrophytic plants. The Safe Drinking Water Act reauthorization may beneficially include provisions for water suppliers to protect their watersheds within certain parameters from septic leachate, herds of animals, and farming activity.

B. Regulation of Non-point sources

Watershed protection as a preventative measure for drinking water quality should include provisions to control non-point sources of pollution of concern, for example, road parking lot run-off to manage benzene and other petroleum products and associated substances along with failed septic systems, which contribute nitrates, bacteria, and viruses. Provisions for regulation or management of non-point sources should be part of required watershed management within reauthorization of the Safe Drinking Water Act. Watersheds by their very nature are often expansive and can frequently occupy lands that extend across state borders. Watershed management and planning will require multiple state cooperation in many cases and this function could be assisted greatly through provisions in the Safe Drinking Water Act.

C. Regulation of air-borne sources of pollution

Watershed protection through management of mobile sources of nitrogen oxides -- nitrates/nitrites; municipal waste incineration sources of mercury (batteries, fluorescent bulbs); cadmium (batteries, red inks); chromium (yellow inks, plated metal parts); and coal combustion, emitting selenium and mercury should be considered. Cross referencing to other federal law such as the Clean Air Act Amendments of 1990 or RCRA may strengthen watershed protection provisions. As RCRA is reauthorized, it may be useful to condition programs within RCRA upon impacts to drinking water sources.

II. Groundwater Protection for Community Water Supplies

Groundwater accounts for approximately 25% of the water supply and may be the source of public or private supply. In Rhode Island North Kingstown, Westerly, Kingston Water District (South Kingstown, Narragansett) are among the public supplies that rely in part or in whole upon groundwater sources. The current Safe Drinking Water Act require states to create well-head protection regulations,and the Rhode Island Department of Environmental Management Division of Water Resources/Groundwater has done so.

A. Area regulated under well-head protection programs is inadequate.

A 400 foot radius around a packed well and a 200 foot radius around a drilled well is not large enough to protect groundwater aquifers that supply wells. Greater protection should be afforded the recharge areas.

While municipal zoning ordinances would seem the logical legal means for controling use of pesticides, gasoline stations, nitrates, and hazardous material storage within the recharge area of a groundwater well, provisions in a reauthorization of the Safe Drinking Water Act to trigger protective ordinances would be helpful.

B. Aeration of groundwater for radon mitigation

Radon, a gas that can be dissolved in groundwater, is regulated under the current Safe Drinking Water Act. In New England's granite bedrock and soils radon is of concern, as it is in other regions of the United States. For private wells no regulation exists and individuals may be exposed to elevated risks of cancer. We suggest that reauthorization consider education or other provision to protect those using private wells.

Maintain Resources

I. Retaining resources

Since water is a limited resource, it is imperative that provisions of the reauthorization of the Safe Drinking Water Act be crafted to avoid loss of drinking supplies. Regulations under the Act should provide for public hearings on change of supply and should require that comparative costs of supply alternatives include the external costs of developing new supply, stressing safe

yields of current supply, among other provisions.

Should the loss of drinking supply be unavoidable, the rights to the water for other appropriate uses should be retained.

A revolving fund loan for improving treatment and delivery systems should be established to help municipal and other systems to meet standards with their current water supply.

II. Maintaining quality

Cooperation between water suppliers and municipalities to regulate land use in recharge areas of ground and surface drinking water supplies is essential.

Purchasing surface and groundwater watershed lands may be aided by providing incentives to public water suppliers, who may impose a surcharge to accomplish this goal.

There is some indication that some water suppliers may be selling off watershed lands in order to pay for costs associated with meeting water quality standards. This is obviously a self-defeating practice because of the increased contaminant level that is likely to come about, and some states, recognizing this, have begun to draft legislation to stop this short-sighted effort. Similar legislation as part of the Safe Drinking Water Act would insure that this practice is controlled.

III. Appropriate use

In order to save drinking quality water for drinking purposes, the reauthorization might include provisions for review of new connections to be used for sanitary purposes only.

IV. Sole Source Aquifer designation

Reauthorization should contain adequate support for Critical Areas under Sole Source Aquifer program. In addition to projects that use federal funds, reviewable projects should include those of greater than 5,000 gallons per day effluent or serving more than 10 people.

Summary

Environmental considerations under reauthorization of the Safe Drinking Water Act should focus on preventative actions that protect watershed and recharge areas. In addition, supplies should be retained, and the reauthorization should accommodate keeping these limited resources.

The Safe Drinking Water Act is a good one and is one that is needed to ensure safe drinking water for the public. Unfortunately, it has seemed to have had a chronic under-funding problem, particularly in the areas of enforcement and assistance to water suppliers to upgrade treatment facilities to comply with the standards set by the Act. A sound Federal funding program for the Safe Drinking Water Act is essential for the proper functioning of the Act.

Thank you for this opportunity to comment.

Notes

(1) Lykins, et al, pp. 25 - 29, attached.
(2) Mark Pokras, D. V. M., Tufts University, personal communication 12/17/91. Henry Childers, D. V. M., Providence, pers. comm.

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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

SAFE DRINKING WATER ACT REAUTHORIZATION

REMARKS SUBMITTED BY

ROBERT K. GRIFFITH, JR., PH.D.

CHIEF, OFFICE OF STRATEGIC PLANNING
R.I. DEPARTMENT OF ADMINISTRATION

TO A FIELD HEARING OF THE

U.S. SENATE
COMMITTEE ON ENVIRONMENT & PUBLIC WORKS

MAY 3, 1993
PROVIDENCE, RHODE ISLAND

NEED FOR FLEXIBILITY IN IMPLEMENTATION

Mr. Chairman,

Thank you for the opportunity to submit the following remarks and our Issue Brief, "The Capacity Challenge: An Emerging Backlash, Funding Squeeze and Gridlock Threaten Environmental Progress," to the record of these hearings. A copy of the Issue Brief follows these introductory remarks.

The premise of the Issue Brief is simple. Americans want their environment protected and cleaned up. They also want assurances that the money they spend to accomplish the task, either directly through use fees or indirectly through taxes (federal, state and local) goes to clearly defined, scientifically based, programs that are realistic and achievable.

There is growing concern among environmentally sensitive public officials that the cumulative cost of meeting current federal environmental mandates threatens to overwhelm state and local governments. While committed to the goals of environmental protection, local officials worry that continuing to try to do everything at once at an ever increasing cost to the tax or rate payer is counterproductive. State and local government officials are speaking up on behalf of increased flexibility in determining priorities when it comes to meeting environmental mandates.

The Safe Drinking Water Act, which is the subject of this hearing, is a case in point. The Safe Drinking water Act (SDWA) of 1974 and its 1987 amendments established federal standards for public drinking water while giving the states primacy for enforcement. The concept of primacy recognized that the states were in a better position to implement programs statewide and to resolve local problems. Since passage, especially since 1981, federal funding in support of state programs has declined while standards have become increasingly stringent and funding for standards enforcement has increased. In the current period of constrained resources some states have indicated they are considering abandoning primacy.

At the heart of the matter is the fact that the SDWA requires EPA to set standards for 83 contaminants and add standards for 25 new contaminants every three years. According to the American Society of Drinking Water Administrators (ASDWA), this approach, has led EPA to consider contaminants that do not routinely occur in water, cannot be easily detected or have high monitoring costs, require very high treatment costs, and which accomplish little in terms of public health protection relative to the costs involved.

The Office of Management and Budget (OMB) lent credence to this view of EPA'S rules on drinking water quality in May 1992, when it questioned newly promulgated standards for 23 different contaminants. According to OMB, the new EPA rules failed to consider the benefits and costs to small water systems, despite the fact that the rule would not prevent any cancer cases and could cost households served by small systems over $3500 annually. OMB urged EPA to revise both the specific rule and its risk assessment process.

The American Water Works Association (AWWA) has joined the ASDWA in expressing its concern over implementation of SDWA, noting especially its concern that the growing cost of meeting SDWA standards impose impossible burdens on smaller water systems. Recently promulgated regulations on lead and copper and impending regulations on radon in water have brought the issue to a head. The ASDWA has declared the regulatory process to be in a state of crisis, and has issued a position paper calling for changes in SDWA. The AWWA affirms support for state primacy but reports growing opposition to water rate increases to pay for implementation of more stringent regulations. While EPA acknowledges that state drinking water programs are among the least able to implement additional regulations the agency shows no indication that it is considering easing up. Neither does congress appear willing to address relaxing the regulations or the timetable for their implementation.

Expressions of concerns over the inability of states and local governments to meet the cumulative requirements of environmental mandates are growing, Mr. Chairman. Since we published our Issue Brief in November 1992 the *New York Times* devoted a five article series to the subject, the Federal Reserve Bank of Boston made the topic the cover story in its Spring 1993 *Regional Review*, and the International City/County Management Association highlighted the problem in its March 1993 edition of *Public Management*. These are all mainstream media or organizations. Not one can be accused of "fronting" for

any of the so-called "wise use" groups that are seeking a rollback of environmental standards.

What they are saying sounds similar to concerns expressed by budget and defense analysts in the mid-1980s regarding the cumulative costs of the defense buildup of that decade. Then the fear was that a "Defense Bow Wave" threatened to overwhelm the nation's ability to stay the course on the Cold War. Well, the Cold War is over, but the cost remains. Now we must guard against creating an "Environmental Tsunami" which could overwhelm our ability and commitment to preserving and protecting our natural resources and environment.

What we argue for in our Issue Brief and what other responsible observers in growing numbers around the country are urging is increased flexibility in setting standards and allocating resources in order to match limited state and local means to local priorities. To further that effort in Rhode Island the Office of Strategic Planning is preparing a follow-on study of the impact of meeting environmental mandates on state and local governments and Rhode Island taxpayers. We are also preparing to lead a multi-agency effort to develop environmental indicators for the state. We intend to use these indicators to establish a baseline from which to establish priorities, allocate resources and measure progress toward meeting environmental goals. Any assistance you can provide us in this effort would be greatly appreciated.

Thank you again for the opportunity to make this presentation.

ISSUE BRIEF : The Capacity Challenge: An Emerging Backlash , Funding Squeeze and Gridlock Threaten Environmental Progress

November 1992

Office of Strategic Planning

Division of Planning

Rhode Island Department of Administration

One Capitol Hill, Providence, Rhode Island 02908-5871

NOTE: The following has been excerpted from the above named document. The complete document has been retained in committee files.

THE CAPACITY CHALLENGE: AN EMERGING BACKLASH, FUNDING SQUEEZE AND GRIDLOCK THREATEN ENVIRONMENTAL PROGRESS

Executive Summary

Americans want their environment protected and cleaned up. No one argues with that assertion. Survey after survey support claims by environmental groups that the "public" wants government and the private sector to preserve gains made over the last twenty years and continue efforts in the areas of prevention, protection, and cleanup.[1]

Concurrently, other evidence suggests that public commitment to environmental programs may be softer than the surveys suggest. The "green" marketing movement of a few years ago is a bust, according to manufacturers and marketeers. Despite the fact that opinion surveys continue to show that the public is willing to pay as much as 20 percent more for environmentally friendly products, consumers are not buying "green" products. At the same time around the country and in Rhode Island resistance to additional taxes or user fees targeted to support environmental programs is mounting.[2]

An environmental backlash is brewing in the United States and elements of it are present in Rhode Island too. This backlash is emerging from various grass roots quarters and can be traced to several causes. These include: competition for scarce resources in the face of the rising public and private costs associated with meeting environmental protection and remediation; rising frustration with the administration of environmental regulations and bureaucratic gridlock; and fears that the effort necessary to maintain a clean environment will stifle economic recovery. The

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[1] In two separate recent polls Americans indicated that if forced to choose between protecting the environment over economic growth they favored protecting the environment. See "The Health of the Planet Survey," George H. Gallup International Institute, Princeton, NY, 1992, p. 33, and "The Wall Street Journal/NBC NEWS Poll: Campaign '92, The Presidential Race & The Issues," The Wall Street Journal, September 18, 1992, p. A6.

[2] Valerie Reitman, "'Green' Product Sales Seem to be Wilting," Wall Street Journal, May 18, 1992, p. B1; American Waterworks Association Mainstream, February 1992, p. 7; March 1992, pp. 1, 4; April 1992, p. 13. In Rhode Island several legislators introduced bills in the 1991 and 1992 sessions aimed at relieving water systems from surcharges targeted at watershed protection or support of water management programs, and consumer groups and the Attorney General routinely protest water and sewer rate increases.

frustration with the administration of environmental regulations and bureaucratic gridlock; and fears that the effort necessary to maintain a clean environment will stifle economic recovery. The outspoken and even violent confrontations between loggers and environmentalists over protection of the Spotted Owl in the Pacific Northwest is one clear example of this phenomenon, but there are other, less dramatic examples around the country and in the region which suggest a trend rather than isolated incidents.

ORGANIZED CHALLENGES

At least three identifiable organized efforts with membership from more than one region of the country exist that question some aspect of environmental protection or restoration programs. These are:

o American Communities for Cleanup Equity (ACCE), a coalition of over 90 local governments in ten states organized to secure federal legislative relief for local government liability from Superfund cleanup costs;

o Nationwide Public Projects Coalition (NPPC), a member-supported organization seeking reform of wetland regulations which, it claims, are being abused by regulators to block needed water supply and highway projects around the country; and

o A coalition of water suppliers and drinking water administrators concerned with the ways in which Federal Safe Drinking Water Act (SDWA) standards are promulgated and enforced.

PROPERTY RIGHTS, RISING COST & BUREAUCRACY BASHING

Other evidence supports the notion that the challenges to environmental mandates are more than a passing phenomenon. There has been an increased number of court cases challenging environmental restrictions as unlawful takings. At the same time there have been bills filed in state legislatures aimed at curbing the ability of state environmental protection agencies to limit land use. Taken together, these trends support the view that an organized "property rights movement" is emerging nationally as local challenges to environmental based restrictions on land development coalesce. Likewise, a growing number of communities or associations representing local governments or businesses have begun to voice concern over the cost of implementing federal and state mandates. Currently, in Rhode Island, local concern over the cost of mandates has focused on education mandates, however local officials are beginning to recognize that costly environmental mandates are also in their future. Finally, there appears to be an increase in the number of news stories or editorials on the subject of the cost of or unintended consequences of environmental regulation or "regulatory gridlock." Taken together these stories, many of which admittedly recount extreme cases, suggest a growing discomfort with environmental regulations or, at least, with the ways they are enforced and the cost of complying with them.

RECOGNIZING THE PROBLEM

The emerging environmental backlash has not gone unnoticed. Environmental organizations publicly condemn the more outspoken organized challenges and dismiss them as fringe elements. Privately they are worried and take the challenges seriously. Environmentalists lobby against most attempts to modify existing legislation and have presented amicus briefs before courts hearing "property rights" cases at the federal level and around the country. At the same time the U.S. Environmental Protection Agency (EPA) acknowledges that the cumulative effect of twenty years of environmental legislation is overwhelming state and local governments. The EPA is working with a number of organizations, including the National Governors' Association and Council of State Governments to identify alternatives to keep the national commitment to the environment moving forward. Finally, the White House has intervened by declaring a moratorium on the implementation of new federal regulations -- not just environmental regulations -- and directing the Competitiveness Council to review regulations with an eye to modifying or eliminating those that it considers overly burdensome to economic development. None of these efforts have yet to identify a workable solution to the dilemma. Indeed, the moratorium on regulations and Competitive Council review, coming in an election year, have politicized the issue further.

CONCLUSIONS AND RECOMMENDATIONS

This issue brief does not purport to be comprehensive. It contains no discussion of the impact of Clean Air Act or Clean Water Act requirements on states or localities. Neither does it factor in the additional impact of state environmental programs and regulations which, in many cases, build on or exceed federal requirements. The purpose of this paper is to raise the question and stimulate discussion. Is there a "capacity" problem in Rhode Island? Is the cumulative impact of environmental regulations overwhelming the state's ability to comply? Can we afford to implement every program we have voted for over the years, and if we do are we stifling needed economic productivity and growth in the process? Is all this leading to a backlash that will result in throwing the environmental baby out with the bathwater? We believe that the answers to these questions are Yes, if the issue remains unaddressed. So what are our options?

o One option is to do nothing. If it is true that so many states are overburdened by environmental mandates to the point that they cannot comply, then the federal government will be forced to respond. We should wait for the process to adjust to the new realities. Additional money spent now in an impossible effort to meet existing requirements is wasting the taxpayers money.

o A second option is to continue to muddle along. We should make a good faith effort to implement the new rules as they come on line and try to make our existing state system work with available

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resources and any additional resources we can squeeze out of the system through higher user fees, higher rates, and increased allocations to environmental regulatory programs from general revenues.

o Third we could get our own house in order and become proactively involved in an effort to force Congress and federal regulatory agencies to deal squarely with the state capacity issue. This course of action would involve identifying and eliminating barriers to efficient implementation of environmental mandates within Rhode Island and taking a leadership role in a similar effort at the national level.

Not surprisingly, this Issue Brief argues for Option Three, which essentially involves bringing the implementation of environmental mandates into line with the realities of government in the 1990s. This process will require several steps which can begin at the state level now and should be able to be accomplished within existing resources. These steps are described in the Recommendations section of the Issue Brief.

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